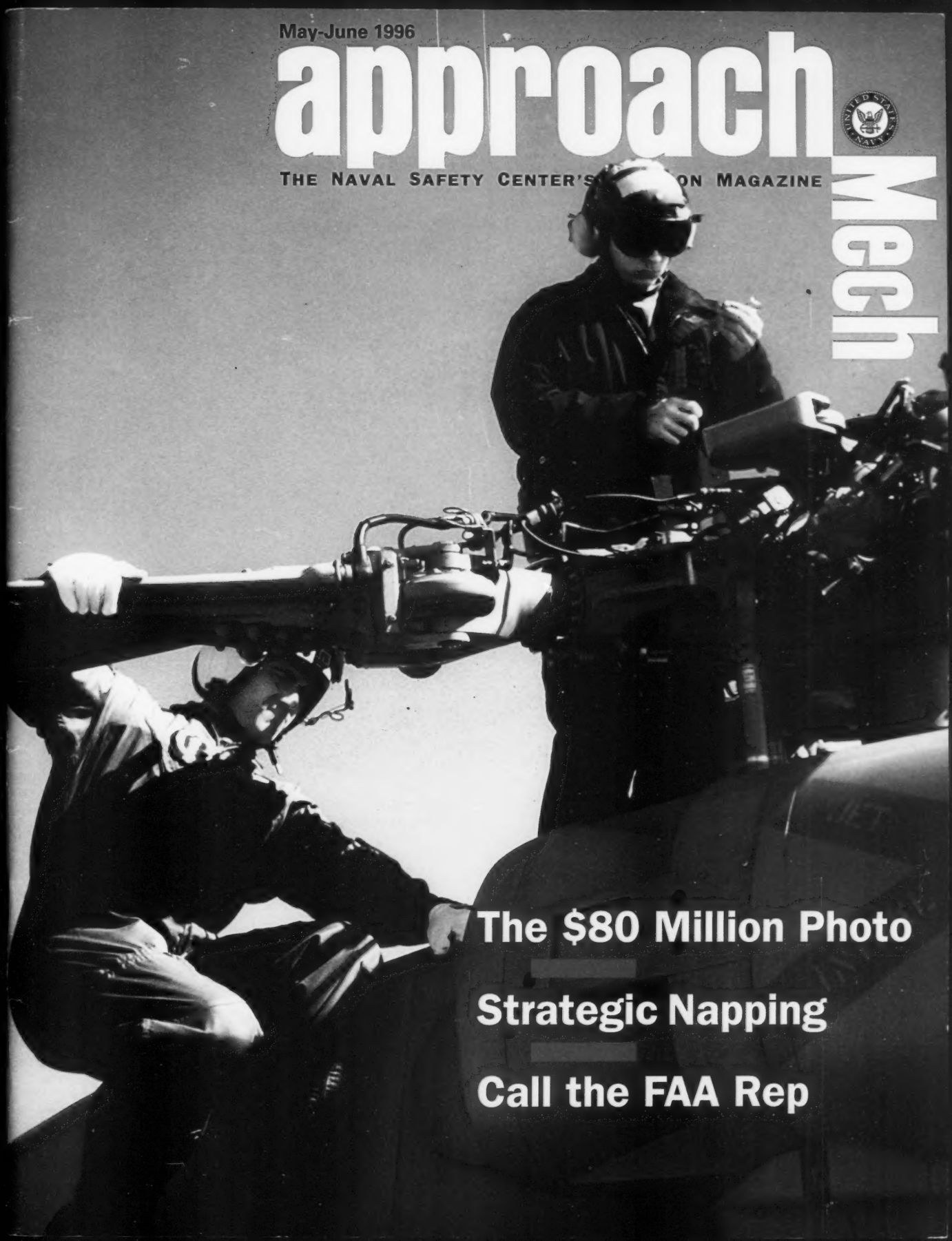
May-June 1996

approach

THE NAVAL SAFETY CENTER'S [illegible]ON MAGAZINE

Mech



The $80 Million Photo

Strategic Napping

Call the FAA Rep

May-June 1996 Volume 41, Number 3

approach Mech

THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

On the cover: An aircrewman and a maintenance technician work side by side on the HS-1 flightline. *(Photo by PH3 Christian M. Viera)*

RAdm. Frank M. Dirren, Jr., Commander, Naval Safety Center
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Approach Mech (ISSN 0570-4979) is published bimonthly by the Commander, Naval Safety Center, 375 A Street, Norfolk, VA 23511-4399. *Approach Mech* contents should not be considered directive and may not be construed as incriminating under Article 31 of the Uniform Code of Military Justice. Views expressed in guest-written articles are not necessarily those of the Naval Safety Center. *Approach Mech* is available for sale by the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Subscription price: $18 per year. Telephone credit card orders can be made 8 a.m. to 4 p.m. Eastern time at (202) 512-1800. Second-class postage paid at Norfolk, VA and additional mailing offices.

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Lessons Learned

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Bravo Zulu
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We rarely have time to do it right the first time, but we always have time to do it over.
Lt. Dan Deutermann
poster by DM3 Galen Kicking Woman

Crossfeed
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LESSONS LEARNED

There are two ways to get smart. One is through experience – we call this "the hard way." The other is to learn through others' experiences. The second method is much easier on our machines and bodies.

Fly by Wire 3

An FA-18 with a full nose-down stabilator deflection pitched into the sea seconds after leaving the cat on a night launch. The pilot had no time to react when the flight-control computer commanded full nose down in response to a false high-AOA value.

The investigation revealed that on the previous flight, the pilot had reported a possible basket slap during air refueling. His turnaround MMP card included an AOA-equality-fail maintenance code 133, indicating an AOA equality fail was recorded on the prior flight, and the required maintenance action to take care of the problem was not done. AOA probes are susceptible to damage from basket slaps. Maintenance should have inspected the AOA probes and system before declaring the Hornet safe for flight.

A related issue involved metal serial-number tags on AOA probes. They were supposed to be removed in accordance with an AFB issued because of an earlier incident involving a stuck AOA probe. Investigators found several tags during a fleet survey. The affected probes had been in supply at the time of the AFB and were not modified.

Investigators determined that the MMP code correctly recorded an AOA equality failure, which indicated that the probe was stuck and reported a false high value. They couldn't determine if the probe stuck because of basket-slap damage or a loose serial tag.

Lessons Learned:

1. Write MAFs! Word-of-mouth information doesn't always get passed. People get distracted, called away or just forget verbal messages. That's why MAFs must be entered against an aircraft needing attention.

2. If you don't know what an indication means, find out. It may directly relate to your life expectancy. In this case, the pilot had a 133 code indicating a possible AOA problem; yet, he didn't ask for ops or maintenance assistance.

3. AFBs should be reserved for airframe changes. Use specific component changes for system components (e.g., AVCs for AOA probes).

— Capt. Jeff Jaques, CAF

Punch Out with Dignity

Modern ejection seats have dramatically improved our survival rate. If you initiate the sequence within the ejection envelope, you stand a good chance of getting a successful (which should not be confused with an injury-free) ejection. You can minimize your injuries during a successful ejection with a little planning and by developing the right habits.

Lessons Learned:

1. Out-of-position ejections cause most major injuries. Inadequate aircrew coordination before ejection is almost always the root of the problem.

2. Not wearing available safety equipment, or illegally modifying protective gear, is asking for trouble. You might have been guilty of one of these no-nos:

- Avoiding that new helmet modification with the advanced integrated nape-chin strap.
- Cutting the fingers out of your gloves for a better feel.
- Rolling up your sleeves for that salty look.
- Keeping your visor up because it was too hard to switch between day and night lenses.
- Not wearing your oxygen mask when airborne.

3. Aviators have suffered avoidable second- and third-degree burns in recent ejections. A light, cotton, long-sleeve T-shirt makes a flight-suit more comfortable, and if it's a turtleneck, you've improved your odds. Going through a fireball or landing in burning JP-5 is not the time or place to rethink poor habits.

— LCdr. Marty Ledger

Edited by Bud Baer. Contributors can contact him at (804) 444-3520 ext. 7246, DSN 564.

50 GLOCs ○ Lithium Batteries ○ Tomcat Controls ○ Deer X-ing ○ Improved Mishap Rate ○ Human Error ○ Instrument Quals

GLOC–A Deadly Threat – G-induced loss of consciousness (GLOC) is still a concern for more aircrew than just those who fly aircraft in the high-G regime. Between Jan. 1, 1980, and Mar. 1, 1996, 50 incidents of GLOC were reported as physiological episodes:

Aircraft	No.	G's at onset of LOC
FA-18	7	5.5 - 8.0
F-14	1	4.0
AV-8B	1	5.5
EA-6B	1	5.0
S-3	1	3.0
T-2	3	3.5
T-34	35	1.5 - 9.0
TA-4J	1	—

The aviators lost consciousness for 2-30 seconds. After they regained consciousness, it usually took 20 seconds to four minutes to completely recover. The time of disorientation did not depend on the amount of G experienced or on the length of LOC. In one case, the recovery was delayed for 20 to 25 minutes after regaining consciousness, and this was from only 4 G's. During recovery, the victims could often hear but couldn't speak or move.

The most common G-load that triggered a GLOC was 3.0 - 3.5 Gs. The common factors that predisposed aircrew to GLOC were poor straining maneuvers (hook maneuver), inexperience, dehydration, inadequate nutrition, fatigue, inattention or channelized attention, illness, no G-suit or disconnected G-suit, and unexpected or sudden onset.

For training to improve your G tolerance, contact your local physiologist or Aviation Survival Training Center.

(*LCdr. Barbara Boyd, Head, Physiology Branch, Aeromedical Division, Naval Safety Center.*)

Treat Lithium Batteries Special – Lithium batteries give more power and last longer than regular batteries, but they are hazardous if not used properly. Sometimes, they get hot and burn, causing fires in aircraft and maintenance spaces.

Naval Safety Center surveys reveal that most personnel aren't aware of these dangers. The following pubs tell the right way to handle them: NAVSEAINST 9310.1B (Navy Lithium Battery Safety Program) and NAVSEA Manual S9310-AQ-SAF-010 (Technical Manual for Batteries, Navy Lithium Safety Program Responsibilities and Procedures).

New Control System for Tomcat – The Navy is considering a digital flight-control system to improve safety in F-14s. Manufactured by GEC Marconi, a British company, it will cost $80 million to equip 210 aircraft.

It works on a plane's controls in the same way a governor works on an engine. It keeps pilots from doing something that would put them outside the envelope.

A defense official said the system will take a couple of years to install and will require allocating FY96 funds to start the program this year with additional appropriations for FY97.

Deer Me – During rollout at 50 knots, the pilot saw a deer approach his Tomcat from the starboard side of the runway. Both aircrew heard a thump as the deer hit the plane (or vice versa), damaging the down-lock actuator. The aircraft cleared the runway and shut down.

Luckily this incident happened at low speed and the pilot saw the deer approach. Had it occurred during rotation or touchdown, it could have been a Class A mishap. Animals search for food during clear, cold weather. Heads up.

NATRACOM Mishap Rate Halved – During CY95, NATRACOM aircraft flew more than 330,000 hours, completed more than 206,000 sorties, maintained some of the lowest Class A and Class B mishap rates among the various communities, and cut its Class A mishap rate in half from 1.21 to 0.61.

CNATRA nominated these squadrons for CNO annual safety awards: VT-7, VT-27, VT-10, VT-2, HT-8 and VT-21.

Navy to Investigate Human Error –The Navy has established a quality management board (QMB) to identify and fix the causes of human error in aircraft mishaps. Sponsored by COMNAVAIRPAC, the QMB will be headed by RAdm. Robert Nutwell, Commander Carrier Group THREE, who said, "We're losing too many planes, and we have to change our way of doing business."

Human error, which is a factor in 80 percent of all mishaps, consists of accidents and intentional violations. Intentional violations can be prevented by identifying those who regularly break rules and making them follow the rules.

Accidents are more difficult because the aviators who commit them don't have enough knowledge, forget something, or let their attention slip. The QMB is concentrating on identifying the causes and fixes for accidental errors. The QMB will be made up of fleet aviators from the junior level through flag ranks. Human-factors experts from the Navy will also participate.

Renew Instrument Quals – When? Your qual is good until the last day of the month your evaluation was completed plus one year. This means you must have completed the course, the exam and the check ride before the end of that month.

You can renew your qual no sooner than 60 days before it expires. Any questions, read OPNAV 3710.7P and Q, pages 13-1 and 2.

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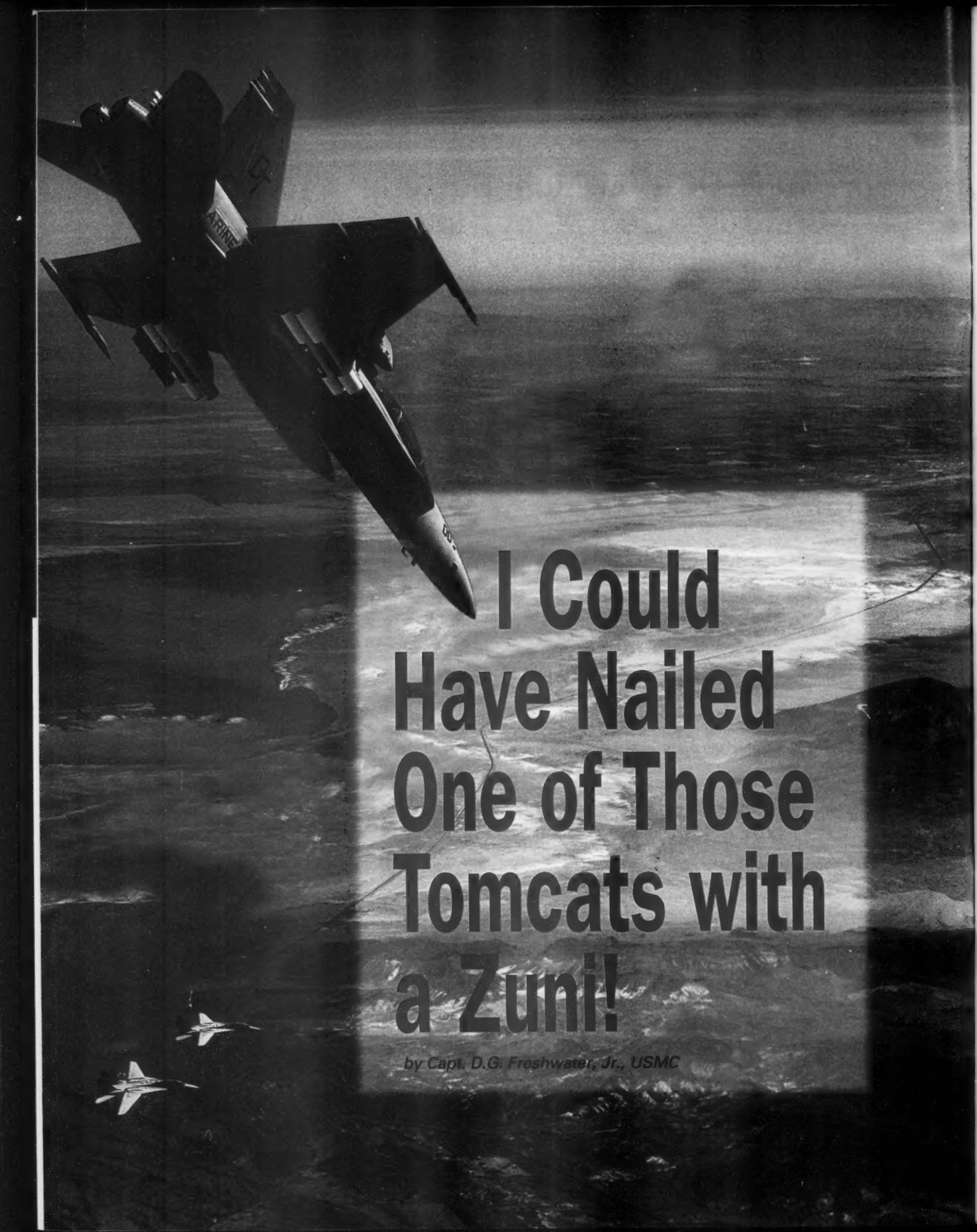


I Could Have Nailed One of Those Tomcats with a Zuni!

by Capt. D.G. Freshwater, Jr., USMC

photo illustration by John W. Williams

My section of FA-18Ds was tasked with a CAS mission for a Marine Tactical Air Control Party (TACP). During the briefing, a video tape covered target-area specifics, such as permissible targets, FAC positions, and communications procedures, which instructed all aircraft to contact range safety before entering the target area. The ordnance load for each aircraft was 5-inch Zuni rockets and 200 rounds of 20mm.

Once cleared into the target airspace, we tried to check in with the Marine Direct Air Support Center (DASC), which was acting as range control and was co-located with the FAC.

We couldn't talk to the DASC for unknown reasons, so we pushed the button for the FAC, and we checked in. He cleared us into the target area for an area FAM. Besides my section, he controlled mortars, which he would use to mark the target. The presence of indirect fire weapons dictated a pass north of the target area to avoid the possibility of a frag.

As we proceeded to the contact point, the FAC expeditiously passed our 9-line brief and time-on-target. Our section planned to fly 30-second trail formation and roll in from medium altitude (12,000 feet).

I was in the lead aircraft. We pushed from the contact point on time, and the FAC told us to continue. Crossing the IP, he called, "Continue."

As we approached our roll-in point, he reported that he saw two F-14s near the target area. After quickly checking for the interlopers, I spotted the mortar marking round hit the deck, and tried to discern exactly which target he wanted me to attack with my live Zunis. Just as I reached my firing altitude (8,000 feet), the FAC called, "They're crossing your nose now."

I responded with a cool, "Tally-ho, aborting."

The F-14s crossed directly between me and the target, giving me a sweet firing solution in my HUD. I could have nailed one of them with a Zuni! I bottomed out at 4,000 feet, directly above the F-14s; the Tomcats were at 1,000 feet. Dash 2 released his rockets as he called a tally of the Tomcats clear of the target. We proceeded to our egress point at which time the Tomcats checked in with the FAC, who told them to hold for 15 minutes.

The "big sky, little bullet" theory may not always save you.

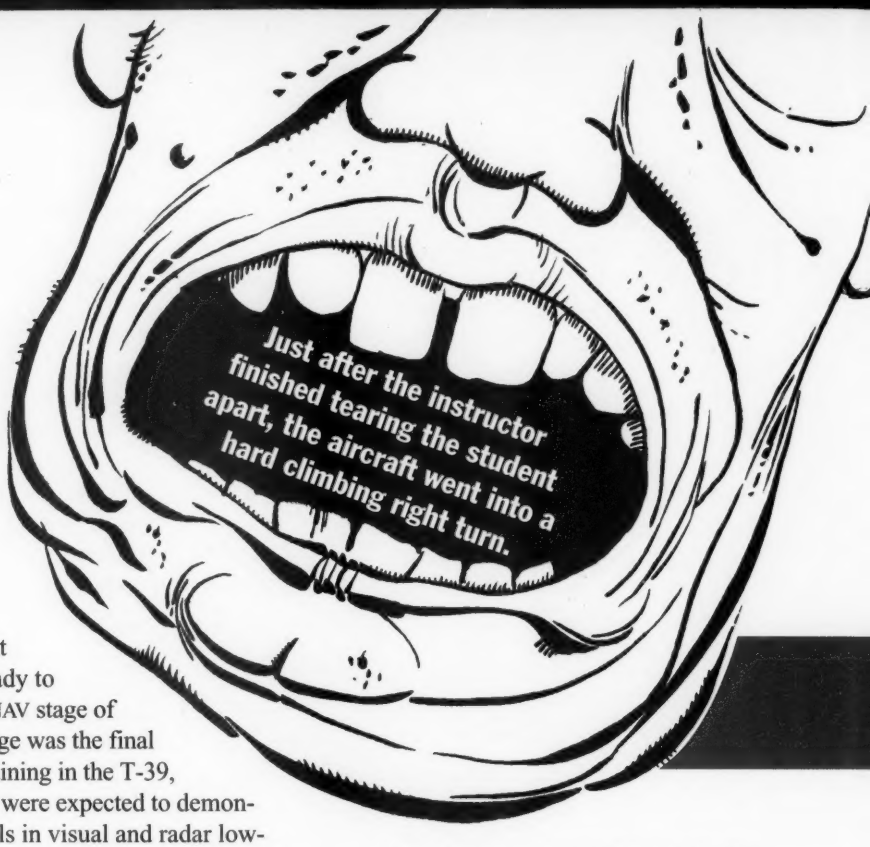
Investigation revealed a glitch with the command-and-control functions of airspace management. Range safety cleared the Tomcats for a no-drop pass over the target area, but range safety never switched the F-14s to the FAC's frequency.

We can learn a few points from this incident. First, always be ready to abort your run if something doesn't look or feel right. In training you can always try again. Second, communications are usually the weak link in any mission. Third, although range safety passed control to the DASC and the TACP, range safety continued to instruct aircraft and did not tell the DASC or TACP.

The FAC owns the target. You must always assume the target area is hot. In this instance, the Tomcats unknowingly put themselves in jeopardy by flying over a hot impact area as well as crossing the mortar gun-target-line with mortar rounds in the air. The "big sky, little bullet" theory may not always save you.◀

Capt. Freshwater flies with VMFA(AW)-242.

photo illustration by John W. Williams



I was a student at VT-86, ready to begin the TACNAV stage of flying. That stage was the final part of NFO training in the T-39, where students were expected to demonstrate their skills in visual and radar low-level navigation. The syllabus emphasized crew coordination, turn-point procedures, and instrument cross-checks.

We were encouraged to take observation hops. These were rides in the back of the T-39 where we would watch other students fly pre-planned low-level routes. Most students used these flights to get the gouge on the route before flying it.

I was on a hop observing two Marine student-ECMOs on their first TN hop. The instructor had a penchant for yelling at students. None of us wanted to fly with him, but what options did we have? Besides, it was only a TN1; what could go wrong?

We took off into a typically muggy Pensacola afternoon. The coastal thunderstorms were everywhere, as was the inland haze. The first student navigated to the entry point, flew the route, found all the turn points in the haze, and landed at NAS Meridian. No big problems. The other student and I felt good about the route. It wasn't that hard, and the instructor was in a good mood. The trip home was going to be a piece of cake.

After lunch, we manned up again, the ECMOs switched out, and I took my spot in the back of the jet. Things started breaking down during start-up. The instructor did not like the way the student was doing his checklists. The one-sided exchange left the student up front more than a little frustrated.

We managed to get off the ground without further incident (unless of course I include the "counselling" by the instructor about airfield awareness and how to hold an approach plate). Point A was only a few minutes away. The student found the point, and we were on the route. As the student started going through the post-turn procedures of checking course and speed, he misread the HSI. We were actually a few degrees off course, but he called us on course. The instructor noticed this, but did not say anything.

After we centered up on course after point B, the student again called us on course when in fact we were not (the T-39 has a digital HSI, which is very easy to read). The instructor, frustrated at the second missed call, instructed the pilot to

Screamers, Towers and Luck

by Lt. Kyle Higgins

alter course five degrees at point C. The student did not catch it.

At point D, the INFO told the pilot to be 10 degrees off course in the opposite direction, mistakenly thinking this would put us back on course. The student never caught the 10 degrees. After the next point, the instructor told the pilot to steady up 15 degrees off course. When the student failed to catch this error, the instructor exploded. He started yelling at the student about his lack of procedural discipline, how we had been off course for the past 20 minutes (20 minutes?), and how there was no reason not to be on course when the aircraft has a digital HSI.

The instructor had a penchant for yelling at students. None of us wanted to fly with him...

Just after the instructor finished tearing the student apart, the aircraft went into a hard climbing right turn. The pilot shouted, "Tower!" over the ICS as he turned the aircraft. Sure enough, there was a 1,000-foot tower, guide wires and everything, passing down the left side of the jet. Once clear, the pilot resumed course and continued with the route. The instructor then started in on lookout doctrine and navigation.

The student could barely remember his name, much less fly the mission. I was surprised that he could finish the hop.

While the instructor had been busy getting us lost, no one had checked our actual navigational track. The instructor wrongly figured that by correcting courses in opposite directions, we would eventually be back on track. He did not figure in wind set or the turnpoint course-change. The last turnpoint positively identified was point B. We found out where we were after the other student and I went over our charts, figuring in the course changes. We were 15 miles inside the route, making a tight box. We also found the tower that nearly killed us. We passed the information to the instructor, and he told the pilot and student to get off the route and head home, where we landed without further incident.

The instructor gave the student a down, but that's not the point of this story. No matter what your function is in the aircraft, everyone is responsible for the safety of the jet and the people inside. If something unsafe is developing, whoever recognizes it needs to say something.

Students are driven by grades. We are afraid to fail. My biggest fear in flight school was getting a down. I should have objected to the unsafe situation developing, but I was wary of the repercussions from the instructor. There aren't many people students can talk to without fear of instructor retribution. I should have gone to the squadron safety officer to report the instructor's unsafe practices. We were lucky on this flight. I don't want to be put in that situation again, ever. Grades won't matter if you aren't around to receive them. ◄

Lt. Higgins flew with VA-52. He is currently assigned to VS-41.

'Scuse Me! Are You Questioning My

by Lt. R.G. Lawry

It sounded like the ideal embarkation. The prime directives were to knock out a lot of quals and minimize the underway time. A five-day shorty was just the thing to keep our hand in during the four months before our deployment. But, as they say, if it sounds too good to be true, it probably is. Soon after we committed ourselves for the ultra-short cruise, the excitement began.

First, the ship's mission was a pre-operational evaluation, a lousy time on board the ship. Next, several squadron RAST-landing qualification (RLQ) periods had been canceled, which degraded the night currency of all four detachment pilots. Simple fix—just bring a night-current pilot (NCP) along to requal the others. OK, and let's make it a flight of two up to Norfolk for maximum training and quals!

The weather for the flight was not the greatest. Winds were from the south — good for fuel, but at 35 knots, with gusts to 50 knots, a little choppy. Weather was calling 400 and 1/2 en route in rain and fog, with Norfolk and Simmons AAF (fuel stop) both reporting VFR. No problem. Weather said it would blow over, so we filed and launched.

The first two hours were in the goo with nothing unusual, but very bumpy. The other aircraft was ahead of us, and we talked with them for a while, but as the flying got more and more interesting, we got quieter.

Just outside Fayetteville, the turbulence increased. The en-route controller had hinted at it by informing the other aircraft on our airway that "some turbulence had been reported." No kidding!

Suddenly, my VSI dropped along with the aircraft. It indicated a 3,200-fpm rate of descent. Already at 65 KIAS, I strove not to slow any further. I tried keeping the wings level. With indicated torque at 125 percent, I was still dropping like a rock, passing 4,000 feet, then 3,000 feet.

As I approached 2,500 feet, I called the controller and told him I couldn't maintain altitude in the severe turbulence. I think he rogered me as I descended through 1,500 feet. My descent slowed to 2,000 fpm, and at 1,300 feet, I saw tree tops.

"Lost radar contact," the controller called as I leveled off.

Given our fuel state, there was nothing suitable for a landing site except Simmons, which was still about 25 miles away. Confident that the worst was behind us, we decided to continue. As we approached the airfield, we saw a squall line that had Simmons socked in. We requested a GCA to a full stop. On final, a severe crosswind made the approach next to impossible. We broke out around 500 feet and landed in a downpour.

The other aircraft was already there, and yes, the aircrew's faces were as white as ours. The other HAC recounted he had momentarily lost lateral cyclic authority on final because of extremely high winds (more than 65 KIAS, with gusts to 80).

We asked about the weather at Norfolk. They were reporting a stationary front, 400-foot ceilings, 1/4-mile visibility in rain, and low-level wind shear. We decided to wait it out. To further improve my mood, the person who answered the phone at homeguard cheerfully told me that it was "only weather," and we could still make the on-top time if we tried.

After exchanging expletives with him, I decided to arrange lodging for the aircrews. Just then, the phone rang. The same pinhead I had just spoken with had called Norfolk Metro from Mayport! And what was worse, Metro said they were VFR (for the time being.) Thanks a lot, pal. Well, the WX radar at Simmons showed a very big, very red (red is bad) blob of weather surrounding Norfolk. I wasn't moving, period.

At 0300, I got a call at the BOQ. The ship would close to 150 miles (bless their hearts) and recover us at 0800. If we couldn't meet them then and there, our mission would be canceled. OK, a launch from

y Manhood?

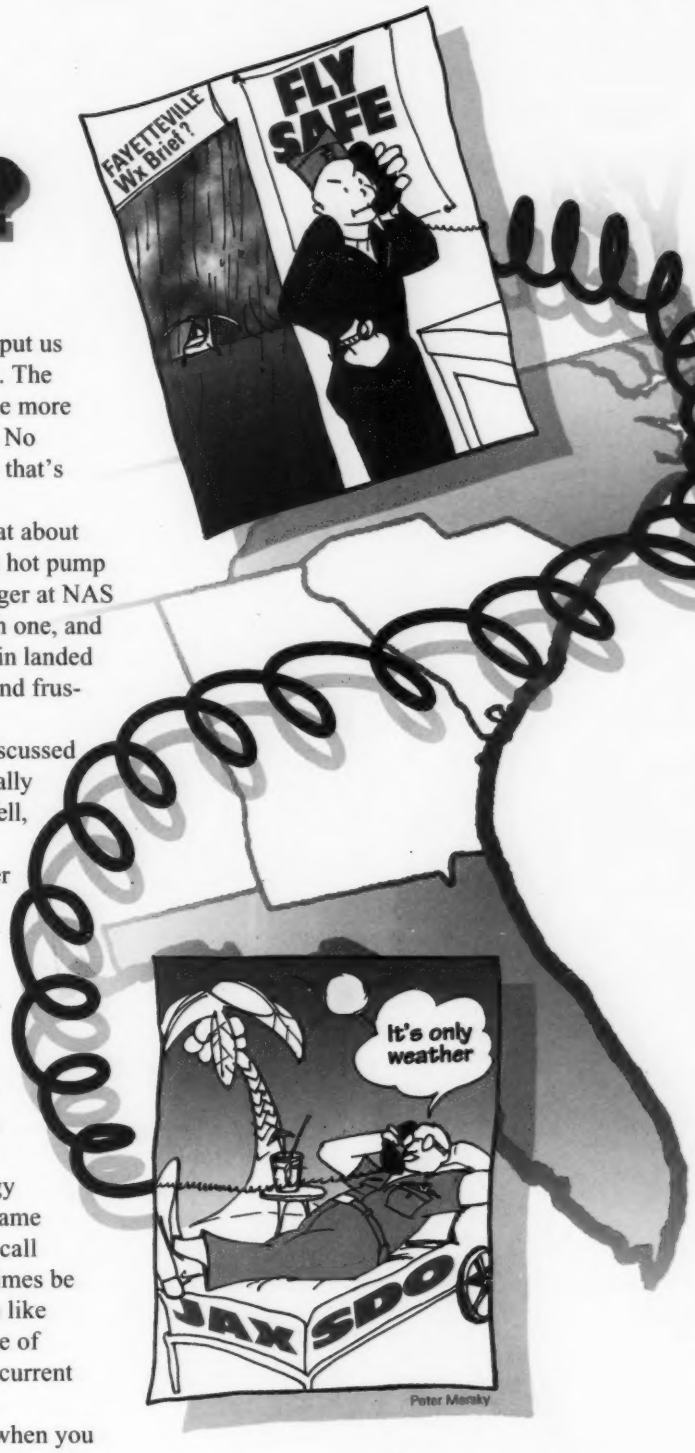
Simmons to Oceana for a hot pump would put us in the window. We strapped her on at 0530. The weather had cleared somewhat. Oh, and one more thing — the ship's TACAN was hard down. No problem, we had their briefed position; but that's another story.

We finally recovered onboard the ship at about 1000. Immediately, the ship directed me to hot pump and return to the beach to pick up a passenger at NAS Norfolk. I exchanged my copilot for a fresh one, and off we went. Finally, at around 1500, I again landed on the ship with the pax. I was exhausted and frustrated, but relieved.

As night approached, the NCP and I discussed doing NRLQs without a TACAN. We skeptically decided to see how much horizon we had. Well, guess what? It was dark—real dark, and raining. I told the ship's commanding officer that the lack of a TACAN and no visible horizon made it impossible to perform NRLQs that night. He said that we could fly the mission or just fly back to Mayport. We decided to fly back to Mayport.

During this entire embarkation fiasco, from the Mayport launch to the shipboard recovery, pressure to complete the mission in the face of adversity had come from all quarters. Despite the time, sweat and energy devoted to this underway period, when it came to a question of safety, there was only one call to make. Like this one, that call can sometimes be more difficult, not because of the tangibles like weather, equipment or training, but because of additional factors, such as having no deck-current pilots or LSOs after an underway period.

Remember, always stick to your guns when you know you're right, and never let anyone make safety a manhood issue.◀



Lt. Lawry flies with HSL-42.

Whipping

by Lt. Troy Lown

I'd finally made it. The flight every SNA dreams about was here. Not just ACM, but solo ACM. Time to whip that instructor's tail.

Up to that point, I had been overly concerned about grades. This habit made me fly conservatively (read: afraid to do something stupid). But today, things would be different — this time I would show what I was made of.

After briefing my 1 v 1 with my instructor, we manned up and headed out to the working area. It was a beautiful South Texas day, and after the initial tacform and "G" warmups, we got down to business.

The first couple of engagements were nothing to write home about. They ended up in the all-too-familiar, low-energy, across-the-circle, at-the-hard-deck, out-of-airspeed-and-ideas Lufbery. Time to knock it off and set up for another go. So far, not what I was hoping for.

We joined up for another try, took our cuts away and headed in for the merge. At about a half mile, I suddenly remembered an instructor telling me to get an advantage on the bogey by making angles even before the first pass, if possible. I vaguely recall that it wasn't really "in the rules" to be able to take early angles, but hey, if you ain't cheatin', you ain't tryin'.

Ba-da-bing. A quick pull to get a little head start on my turn and… wow! He did it too! That dishonest son-of-a-gun. So much for my advantage.

g the Instructor

Alrighty then, time to get really nasty.

The first passes were disturbingly similar to the first two engagements — no clear advantages and nothing really developing. This was getting boring and doing nothing for my ego or my grades. There had to be something I could do to get a break on this guy.

Then it hit me. Back in the BI phase, after the instrument portion of a hop, an instructor had demonstrated a loop that he had entered at 300 KIAS. The aero-phase guidebook had us do them at 450 KIAS, but this instructor had shown me that if you finessed the jet just right, you could (just barely) get over the top.

Approaching my ACM instructor for the third time this engagement, I was determined to make my presence known. Glancing at my airspeed, I saw approximately 250 KIAS (isn't that about how fast my BI instructor was going?). At the merge, I took the fight vertical.

Nice, easy pull up, check six. He's not following me. Ha, I gotcha now! Approaching vertical, ease it through… gosh, my stick sure is getting mushy… Oh, no!

There I was — somewhere near vertical, airspeed rapidly decreasing through 100 KIAS and stick authority near exhausted. I instinctively increased pull as much as possible in order to get myself out of the dreaded "cone" and called, "Knock it off, zero airspeed," while going through my OOCF procedures.

I'll never forget the urgency in my instructor's voice as he yelled for me to neutralize controls while we both waited to see if my Skyhawk was going to go into an inverted spin as advertised. At this point, I was along for the ride with only the Bernoulli fairies to determine the outcome of this maneuver.

Luckily, my precious training aid decided to do only a couple of aerial gyrations that would have impressed Greg Louganis before seeking the brown earth of Texas 15,000 feet below.

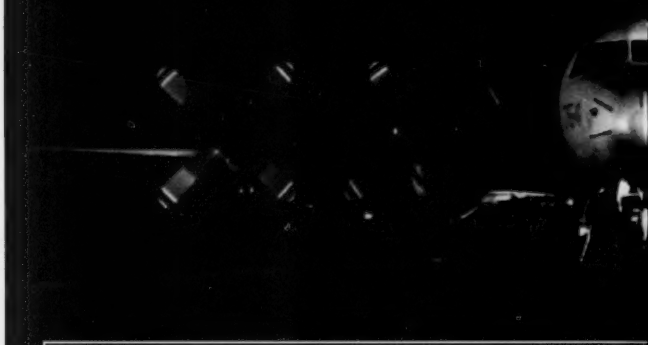
Only after a couple of days had passed — I was still shaking — could I begin to comprehend how fortunate I was to have been able to fly the jet home that day. One of those simulator instructors with mega-thousands of hours and even more flying stories wanted me to tell him my story because, as he put it, "Not many people have taken the Scooter zero airspeed in the vertical and flown back to tell about it."

My desire to win and to impress my instructor that day almost cost the training command a jet. Needless to say, that experience has indelibly etched on my mind the reasons why we standardize and follow procedures.

Lt. Lown is an LSO with VS-33.

A High-Pow

by Lt. Grego



Suddenly, a big piece of asphalt ca front of No. 2. Before I could rea

LCdr. Bill Brennan

As I headed home for dinner, after a five-hour training flight. Earlier that day, another aircraft had returned on three engines because No. 2 prop pitchlocked when its regulator failed. The mechs replaced it. When I got home, there was a message asking me to return and high-power this aircraft.

I called the SDO, and he told me that the duty taxi pilot was scheduled for a 0300 preflight the next morning. Maintenance was in a jam because of a tough flight schedule the next day. I said I'd do it and promptly drove back to the squadron.

It was getting dark when I arrived. Maintenance control briefed me on the turn and told me the aircraft was parked on the other side of the airfield in the hot-cargo area. I thought this turn would be a breeze. The aircraft was already in a high-power area, so I wouldn't even have to move it. Maintenance control agreed.

It was 2000 when I arrived at the aircraft, and the turn crew was ready to go. A high-power turn in a P-3 requires many people, including a pilot, flight engineer, right-seat observer, and an aft observer. A lineman and three maintainers were also present.

I did my usual walk-around, paying close attention for FOD, because I had never been to this part of the field. It was dark now, and the taxiway lights were on. The aircraft was parked on the edge of the taxiway facing the middle. I noticed the taxiway lights behind the aircraft, but because it was dark, I didn't see the double yellow lines in front of the aircraft.

Although the aircraft was in front of the blue taxiway lights, it was actually parked on an unstabilized shoulder. I didn't see anything wrong and boarded the plane.

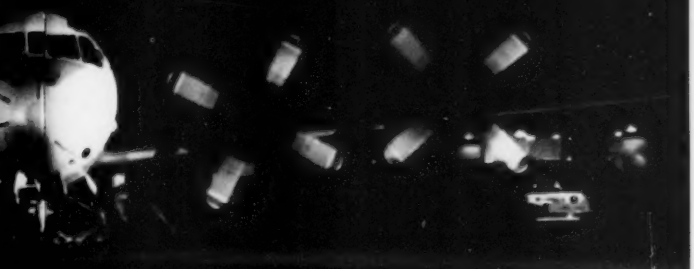
In the flight station, I briefed ground emergencies with the crew and told them the chocks were still in place because I didn't intend to move the aircraft.

I called ground for engine starts and requested a high-power turnup at my present position. The controllers knew where I was parked, but because it was dark, they couldn't see my exact position on the taxiway. Again, not thinking anything was wrong, they cleared me for starts and the high-power turnup.

After normal starts on all four engines, the first check was a max power run on No. 2 to ensure it wouldn't pitchlock at a high-power setting. It is normal to advance power on symmetrical engines at the same time, so the flight engineer took No. 2 and No. 3; I had No. 1 and No. 4. He advanced power to about 3,000 shp on each engine while I maintained a good outside scan.

wer Mistake

egory Schmeiser



t came loose and stood on end right in react, the asphalt flew into the prop.

About 10 seconds into the check, the aircraft started vibrating oddly. At first, I thought the parking brake had released, and the aircraft was taxiing over the chocks. A double-check of the parking brake and a quick glance outside confirmed we were not moving, but what I did see was even more shocking — a moisture vortex had formed under the No. 2 prop. Suddenly, a big piece of asphalt came loose and stood on end right in front of No. 2. Before I could react, the asphalt flew into the prop.

The aircraft vibrated severely, and I called for immediate fuel chop of No. 2. Simultaneously, I noticed the lineman waving his arms frantically. As we fuel-chopped No. 2, the aircraft shook even more, and I called for all engines to be fuel-chopped.

As No. 2 coasted to a stop, I saw that three of the four blade tips were completely gone, and the blade cuffs were badly damaged. The prop was destroyed. My heart was pounding now. All that was going through my mind was that the engine was FODed, the fuselage and No. 1 probably caught some shrapnel, and that the landing gear was most likely damaged.

We completed the secure check list, and I went outside to assess the damage. Ground personnel were already inspecting the prop. I was relieved to see no collateral damage (I still don't know how the prop pieces didn't hit anything), and above all, no one was hurt.

I called maintenance control and ground to tell them what had happened. We made FOD checks of all four engines, but didn't find any damage. During a FOD walk-down, we found large pieces of prop (some as big as 5 inches by 5 inches) and asphalt 200 yards away, on both sides of the aircraft. We even found one piece on the far side of an aircraft parked next to us.

Everyone thought the aircraft was parked in an approved high-power area, but it wasn't. If a taxiway has an unstabilized shoulder, that area (between the double yellow lines and the blue lights) is not stressed for high-power turnups. All it took was a weak piece of asphalt, and boom, a Class "C" ground mishap. During the day, this might not have happened. We could have seen the double yellow lines, and known that the aircraft was behind them.

The ground controller could have seen this as well. A good walk-around not only includes inspecting the aircraft and checking for FOD, but observing everything around the aircraft (such as cracks in the pavement), especially when the aircraft is parked in an unfamiliar area at night. ◄

Lt. Schmeiser is a PPC with VP-16.

But the Hatch

by Lt. John J. Suarez

The carrier had been at sea for 50 days, and we had no real chance for a port visit any time soon. It was a gorgeous day in the Adriatic, and, as a new copilot, it was my turn to fly into an overseas NAS. I was glad. We didn't get good deals like this in the blackshoe community, where I had started my naval career.

After planning how we would spend our three-hour layover before the return trip, we began our checklist happily.

"This is great," I thought, "I can finally get a decent cup of coffee and call my wife. What could go wrong?" Right then and there, I should have bitten my tongue.

We completed our checks, and the GPS was up and singing.

Good old GPS. I put all the waypoints into the computer while on deck, then broke out all the VFR charts I would need and stacked them neatly between my seat and the door for ready access. I wanted to show my HAC that I didn't need the GPS satellite system to get to our destination. I was determined to do it

I explained that I was sure but no one in the crew

all by time, speed, distance and ground reference.

"The GPS is still nice to have," the HAC said. I took note of this fact but thought, "If I could do without GPS in flight school, I could do without it now." Besides, I wanted to get some PQS signed off.

After getting off the deck on time, we fell a little behind schedule. It had taken more than half an hour to contact approach, and the HAC was really getting tired of my mock Italian accent. We were finally cleared to go feet dry, and it wasn't much longer before the HAC decided to give approach and the rest of the crew a break by taking over the radios for a while. Another crisis averted after another terse lecture about not ruffling the feathers of the locals (It's a talent, what can I say), and we were on our way.

Then it happened. At 150 knots, air blasted through the cockpit, making an incredible sound. Anything that was not tied down, such as my VFR charts, was suddenly in the air and sucked out of the aircraft. My door was open! The penetrating stare I received from the left seat was both

n Really Did Just *Blow*!

priceless and highly informative. We were now chartless, and it was my fault.

I explained that I was sure I had locked the door, but no one in the crew believed me (I'm not sure I would have believed them if the roles had been reversed). For the rest of

re that I had locked the door, ew believed me...

the flight, the controls as well as the radios were off limits to me.

We landed at our destination with plenty of time to spare, thanks to the accuracy of the GPS waypoints. No PQS sign-off for this leg of the flight.

After my call home and a cappuccino that didn't taste as great as I had imagined it would, it was time to saddle up and head back to the old gray hull. The maintenance guys we brought along made quite a ceremony of ensuring my door was latched and locked before takeoff, which only confirmed the HAC's suspicions that "the bonehead never locked the door." Alas, both the stick and radios were still off limits.

"Could I really have forgotten to lock the door?" I asked myself as doubt began to grow. I didn't have to wonder very long. We had just passed the first line of mountains when suddenly the familiar roar of an open door filled the cockpit. This time, the HAC knew it wasn't my fault. I was sitting on my hands. His second surprised look was even more memorable than the first.

"What's going on with that door?" he asked. I had a half-dozen humorous retorts to the question but I only said, "I don't know." For once, it was a good choice of words.

He slowed the aircraft, and I managed to get the door shut. The disbelief on his part gave my ego a big boost. Now we both agreed that there was something wrong with the door latch. A brief and noble apology from the HAC was followed by a control change and a polite warning about radio etiquette. Now I was back in business, until the door opened again. The momentary twitch created by my surprise was transmitted through the controls and created a shudder throughout the aircraft felt by all. By this time, the passengers were more than a little concerned. Later reports had several passengers with ashen faces grabbing whatever was near. At least I could talk on the radios for the rest of the flight home to mom.

During the postflight, an industrious airframer found that the door on the left side of the aircraft was out of adjustment. Ahh. The reason for all my troubles was nothing more than a five-minute fix.

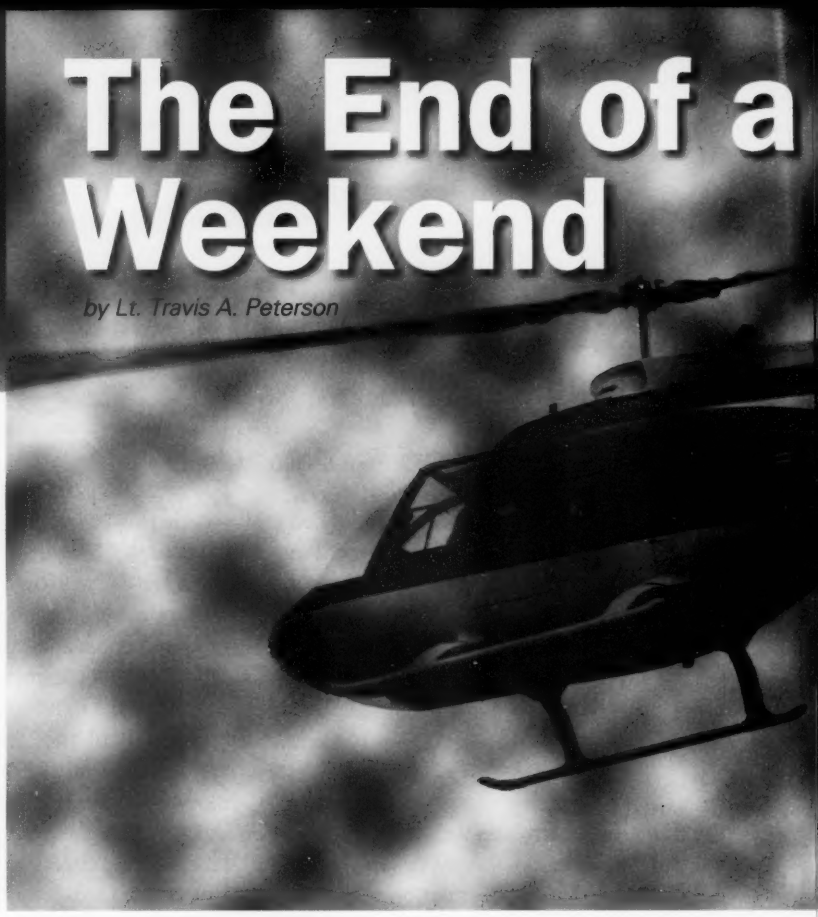
What I learned from the flight was invaluable. First, if you're not using it right now, put it away. There was no reason to have all the charts stacked near the door. I should have taken them out of the nav bag one at a time. This brings me to the second lesson: If you need it or value it, don't put it near the door. The H-60's cockpit has little free space, and many of us were in the habit of putting ready-use items next to the door. Mine were not the only habits that got changed that day.

Now I'm the HAC, and when a copilot's door recently opened in flight, all I could do was laugh when he said, "It just blew open." He, however, lost nothing. Then I told him my story. ◄

Lt. Suarez flies with HS-3.

The End of a Weekend

by Lt. Travis A. Peterson



Flying back from a fun-filled cross-country to Jacksonville, we were approaching the Pensacola area, which we expected to be VFR. Our flights had gone as planned, except for the inadvertent-IMC ILS I had flown two days before on what was only my second hop in the TH-57C. We contacted Eglin Approach about 70 miles out for flight following, and they reported that Whiting had weather moving in. As we neared Crestview, we could see the rotating beacon from Whiting.

After being handed off by Eglin, we tuned up ATIS. Whiting was calling VFR but not much to spare. About 25 miles out, we called Whiting Tower for permission to enter course rules. Tower asked if we had the field in sight, which we did. They cleared us to the initial point, but by then, we were using TACAN points to navigate our way through course rules, as there was no way to see the VFR points on the ground.

Our wingman provided backup as we flew toward our entry point. We could see a cloud layer high above the field but could not make out where the bases were. At about 20 miles, we lost sight of the field. We could still see light on the ground, so we knew we were not in the clouds. We took a look at where we were on the chart to make sure the area was clear and began our descent.

At 500-600 feet, we caught sight of the field and leveled off. Two minutes later, we lost the field again. We called tower and asked for a weather update. They reported 1500/7. The field was hidden by clouds (we were still in formation), so we asked our wingman for opinions.

The field reappeared, and the IPs decided we should continue VFR. I don't know why they chose to stay VFR at night, when two days before they had decided to go in to Jax single ship and IFR. It could have been they were on home turf and thought they knew how to get where they were going. We had to continue descending to keep the field in sight. I watched the radalt tick down, and became ever more aware that the trees rose to 100 feet in some areas. At 200 feet, we went IMC.

We never saw the layer that was right in front of us. We entered the cloud, and the world went black. We were at about 200 feet, in formation, and 7-10 miles from the field. My instructor and I reported going on instruments, then radioed our wingman, calling inadvertent IMC. We began to turn away as well. Now we decided to go in single-ship and call up Pensacola Approach if we did not break out. We turned and climbed, not wanting to be close to the ground with towers in the area.

At 500 feet, we leveled out and reversed course, hoping we would fly out of the clouds. After a few minutes, however, we were still IMC. With towers as tall as 1,000 feet in the area, we turned back toward the field and climbed even higher. We called approach and said we were inadvertent IMC and requested

a Perfect

They told us we almost had a midair in the goo; neither of us ever saw a thing.

immediate handling. They replied, "Roger, stand by, and remain VMC."

We again told them we were inadvertent IMC and gave our position. This time they called traffic off our nose about two miles and requested that we stay VMC and provide our own separation. The instructor, clearly agitated, repeated "We are in the goo already and are unable to provide our own separation." He then gave our position, heading and altitude. The controller, with a small amount of panic in his voice, told us to maintain our current heading and altitude and to stand by.

After a few minutes, he gave us a squawk and vectors to a GCA. We climbed out on top and could see that the area from Crestview to Pensacola was socked in. We hadn't heard any word from our wingman and asked Approach if they had any information on him. After a call to our base, they said our wingman had already recovered.

On our approach, we broke out at approximately 900 feet, which meant the layer over the field was only about 1,000 feet thick. We called our base while taxiing back in, and they told us we needed to call Pensacola Approach when we got to the duty office.

We didn't know that when we had turned back to the field and climbed up, we had flown right across the approach path for the GCA. If I had looked at the approaches then, I might have been a useful member of the crew. The traffic we were told to avoid was a T-34 on GCA final, which we could not hear because we were on VHF, and they were on UHF. They told us we almost had a midair in the goo; neither of us ever saw a thing. The T-34 waved off and took it around. I heard later that they hadn't seen anything, either, and that the IP on that flight was quite upset with us.

We were spared a flight violation because approach didn't understand our "inadvertent IFR." They thought we were VMC but required a GCA approach to land. They said later we should have declared an emergency and told them we were in the clouds, needing immediate handling to maintain separation from other aircraft. We also discovered that our wingman had flown out of the clouds and went in VFR. The other student later told me he thought they were a bit low, around 100 feet, but did not say anything. He also said they never heard our call to switch to approach.

I was unprepared to go IFR on this flight; after all, it was supposed to be VFR. We had briefed inadvertent IMC as part of the form brief but had not expected it to happen. Why I didn't say anything before going inadvertent IMC still bothers me. I should have spoken up on several occasions, but I was content to help the IP watch gauges, tune radios and provide a little backup if needed. I know now that if you are part of the crew and you wonder why something is happening, you should be asking questions. I was just along for the ride on this one.◀

Lt. Peterson flies with HS-2.

My Instructor's

by Ltjg. A. Terry Johnson

It was going to be my first flight in the A-4 Skyhawk, and on top of that, it was a cross-country from the East Coast to the West Coast— the type of good deal that doesn't come around every day. My instructor pilot and I both had family on the West Coast, so we were eager to get airborne.

Being a model student NFO, I had completed the preflight planning and had the fuel figures planned down to the nearest pound. It was going to be a great cross-country, and one that I would never forget.

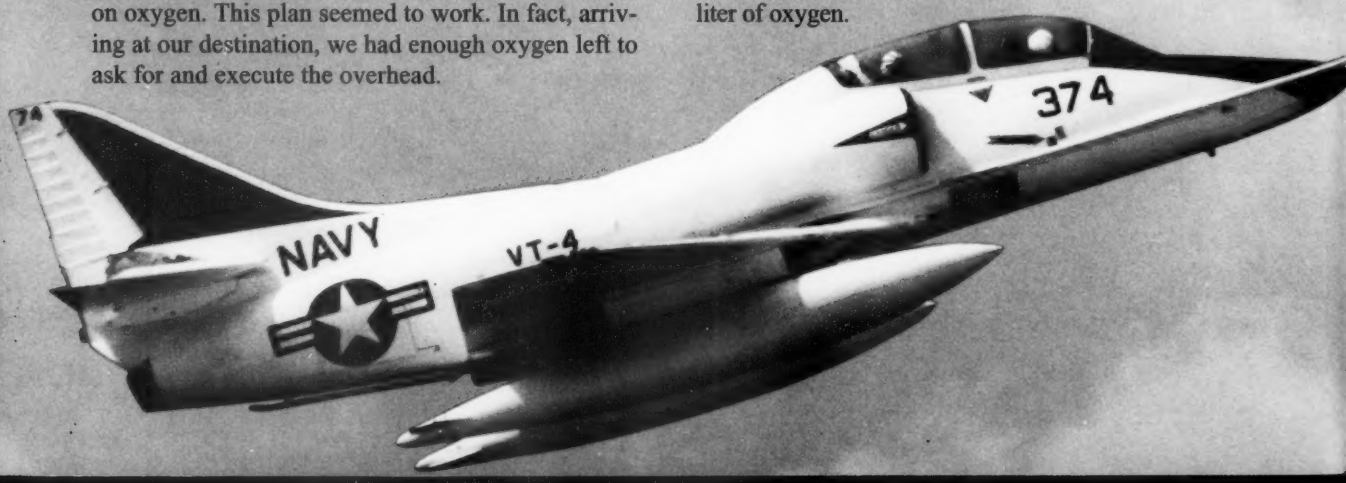
The first leg from the East Coast to Dallas went smoothly. We fueled up, inhaled a slider and Coke, kicked the tires, and took off ahead of schedule. We were about halfway to our destination when I discovered that our LOX gauge was declining rapidly. In fact, I could almost watch the needle fall as I stared at it in disbelief. After discussing the problem with the instructor, we decided to press on since we only had an hour to go. We planned to delay our descent as long as possible while sharing oxygen.

The cabin pressurization was about 15,000 feet at our cruising altitude so we took turns breathing oxygen, switching at 15-minute intervals. We discussed the symptoms of hypoxia and how we each had recognized its onset in the atmospheric chamber. We also took off our gloves so we could monitor the color of our fingernails and decided that if at any time one of us felt hypoxic, we would 'fess up and go on oxygen. This plan seemed to work. In fact, arriving at our destination, we had enough oxygen left to ask for and execute the overhead.

Before we knew it, it was Sunday morning and time to go home. We wondered if we should have the LOX system checked out on Monday morning and bring the jet back a day late, or press on and see if we could make it to Cannon AFB. After all, even with the LOX leak, we had made it all the way across the country on one bottle. We figured that we should be able to at least make our planned first-leg with a fresh bottle. We had trouble getting the bottle filled on Sunday, but finally succeeded and launched about two hours late.

I realized that the leak was still going to be a problem shortly after liftoff as I watched the LOX gauge slowly count down. By the time we reached our cruising altitude, we were down to five liters, but the leak seemed to gradually slow as the amount of LOX decreased. I asked the instructor if we should RTB and get the leak fixed, which seemed the logical action to me. The instructor said he felt compelled to get the jet back home on time so the skipper wouldn't have any second thoughts about future cross-countries to the West Coast.

"After all, if worse comes to worst, we'll just share the oxygen like we did on the way out," said my seasoned, experienced and invincible instructor pilot. I reluctantly agreed with his decision. After all, who was I to challenge his decision with all of my 100 hours? He had to know what he was doing — he was an instructor pilot. Luckily, once again, our oxygen time-share plan worked. We landed safely at Cannon with less than one liter of oxygen.



s Poor Headwork

While we waited for our jet to be fueled and our LOX to be replenished, we discussed our options and updated our weather forecast. The second leg home was only a few miles longer than the first one, and the weather looked good except for a few scattered thunderstorms. We decided to press on. We delayed using oxygen until cabin pressure was above 10,000 feet. Then we immediately started our well-practiced time-share plan while promising each other that we would never do this again.

Just as before, we leveled off with only about five liters of LOX.

"No problem," I thought, "two hours from now, I'll be back home, and I'll only have four more flights until I get my wings." That's when it started to get real dark and nasty up ahead. Those scattered thunderstorms mentioned on the DD-175-1 had grown into a front that stretched as far north and south as I could see. Going around the front was out of the question, so we decided to go over it. We asked for FL390 and began our climb. Having a full bag of gas, the climb to FL390 was painfully slow, but it began to look like we would clear the tops with a few thousand feet to spare. Then without warning, passing FL385, the aircraft rolled inverted and departed.

Suddenly, we went from on top of the storm to right in the middle of it with no radar.

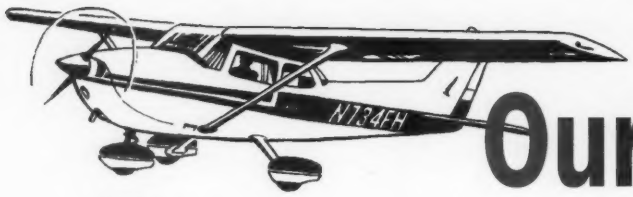
The instructor quickly regained control and leveled out at FL350. Suddenly, we went from on top of the storm to right in the middle of it with no radar. I did a quick tap dance on the radio to keep us from getting a flight violation and asked ATC if they were painting any thunderstorm activity in our vicinity. The over-burdened controller quickly told me, "I am painting thunderstorms everywhere." What else could possibly go wrong? We were in the goo, no radar, embedded thunderstorms all around us, unable to climb out of the clouds because we were still too heavy, low on LOX, and my fuel calculation indicated that we would land at home with less than squadron SOP. (So much for that nice tailwind our weather briefer told us about.)

We finally broke out of the bad weather a half-hour later, though it seemed like hours. We continued to request the most direct legs home and continued our oxygen time-sharing plan. We passed countless air fields over the last hour of the flight, declared minimum fuel, and made a safe landing back home with a hair less than squadron SOP of JP-5, less than one liter of LOX, and just before a large thunderstorm closed down the field. Mission complete!

During the extensive flight debrief, we discussed all the events of the weekend flights. My instructor apologized for his poor decisions and said that what I had just experienced was below average headwork on his part.

Even though what happened never should have, I learned many lessons. First of all, no matter how junior you are, you are still part of the crew and have the responsibility to ensure flight safety. Secondly, no one is immune from poor headwork, be it an instructor or the skipper of a squadron. If you have the slightest feeling that it would be stupid to go flying, it probably is. Finally, don't pass up perfectly good airfields if you are low on fuel. You never know what lies ahead. ◄

Ltjg. Johnson flies with VS-29.



Our Little Bit o

by Capt. Chr

September had brought clear, blue skies and cool, dry air to southern New England after a long hazy summer, nearly perfect flying conditions. I was crewed with my battalion commander, and we briefed a local VFR aircrew-training mission that would take us to a civilian airport approximately 45 miles northwest of our coastal home station for a few practice approaches.

After checking in with approach, we proceeded on course. It was great to be out of the office and in the air enjoying early autumn.

About 15 miles out, we called tower to advise them of our intentions. We were somewhat surprised when they asked us to loiter for approximately five minutes outside their airspace while they finished some parachute operations.

I had checked NOTAMS. They hadn't listed parachute operations for this airport on this particular day, but I still felt I had missed something in front of my boss.

Tower soon cleared us for an approach. On final, we noticed lots of people on the tarmac circulating around a variety of aircraft. Tower told us they were all there for a fly-in celebrating the opening of a new terminal (also not mentioned in the NOTAMS!), and asked us if we would like to do a fly-by.

We politely declined, but made a low approach and reconfirmed with tower our plan to make several approaches. He cleared us to enter closed traffic.

As we climbed up to pattern altitude, we immediately noticed that three single-engine airplanes were converging on the airfield at approximately the same time. Tower quickly called all three, and within two minutes, we were the lead aircraft of four in the right downwind. Tower was also talking to the two jump airplanes that were spiraling down over the airport and establishing them as a flight of two on a one-mile final.

Tower quickly gave us a oncoming aircraft which the second.

Tower was also juggling two civilian helicopters. One was giving rides to and from the fly-in. The other helicopter, flown by a student, was illegally penetrating the tower's airspace.

As we extended on downwind, we noticed the flight of two jump aircraft on final. We had good separation, and tower cleared us number two to land behind the flight.

When we turned right base, I immediately noticed that the airplane trailing me had turned base as well; apparently misin-

# of Crowded Sky

. Chris Callahan, USANG

terpreted tower's instructions. The two of us were now flying parallel to each other and perpendicular to the runway when the pilot of the aircraft formerly trailing me

s a left turn to avoid the ich was getting closer by

realized he was heading straight toward the two jump aircraft on final. He turned left, straight toward me!

Tower quickly gave us a left turn to avoid the oncoming aircraft which was getting closer by the second. We looked left before we banked into the turn and much to our surprise, the helicopter giving rides at the fly-in was a quarter mile away and inbound to the airport as well.

Since we couldn't turn left, we descended approximately 200 feet, immediately amended our turn, contacted tower, and slipped out of this impromptu flying circus. However, as we happily departed, we were concerned about the confusion we could still hear over the radio.

A second civilian helicopter contributed to the chaos by continuing inbound despite tower's pleas to stay clear. The second civilian helicopter flew directly over the field twice and completely disrupted the growing air traffic, which now included a flight of three C-130s and a twin-engine commuter.

As it turned out, a student was flying the second helicopter, and he was having trouble because he couldn't speak English very well.

En route to our home base, we landed at the student's uncontrolled airport so we could get the full tail number of his aircraft. However, we found he was based out of another field and that this airport was just his next VFR checkpoint.

Just as we prepared to depart, our student made a grand arrival. He shot his approach, cutting off a glider on short final, forcing the glider pilot to make an amended but successful approach to a sod area on the side of the runway.

After he landed, we gave the student the universal signal to shut down his aircraft, and then we walked over to chat with him. The foreign student was understandably nervous; he was not used to seeing stern-faced military aviators approach his aircraft wearing all their gear.

We spoke with the student, we spoke with his IP, and we spoke with his IP's boss and detailed the day's events. We suggested that they might want to come pick up the student and his helicopter because he was having a very long day. Thankfully, the instructors agreed.◄

Capt. Callahan is an Aeroscout pilot, flying OH-6s with the Rhode Island Army National Guard.

Turn On Your Lights!

by Lt. Don Cioffi

It started out as a simple half-hour flight from NAS Cecil Field to our outlying landing field at Whitehouse. The night bounce period went fine, and the return flight (all five minutes of it) was proceeding as usual. We were talking to Jacksonville Approach, who had just switched us to Cecil Radar for vectors to final for runway 27R.

At two miles, we switched to tower and were cleared for a left break at the numbers. As we flew over the runway, my right-seater commented that there were a lot of aircraft taxiing. I agreed, but this was normal since a CQ det was coming up, and four squadrons were getting ready to go to the boat. As we rolled wings level, we called, "Three down-and-locked," and tower gave us permission to land on 27R.

Passing through the 90, I saw what I thought was another S-3, approaching the hold-short. I didn't pay much more attention to it because I was determined to fly this pass as if it were graded. With our checks complete, we rolled into the groove and saw a string of FA-18s and S-3s waiting to depart. It looked like O'Hare International on a Friday afternoon.

Then, we saw it: an S-3 taking the runway we were cleared to land on! Luckily, the pilot had turned on his taxi light as he taxied onto the runway, or we wouldn't have seen him until it was too late. Obviously, he didn't see us and had not thoroughly checked the groove. I took control of the radios and asked tower if we were cleared.

The controller replied, "Scout 704, cleared to land on 27R."

I then asked him if he knew there was another S-3 departing on that runway! After about three seconds of silence, I told tower I was taking it around the right side so I could keep the traffic in sight. As the aircraft climbed away, I requested clearance to turn back to downwind. The tower supervisor then got on the radio and wanted to know why we were deviating from our assigned clearance. I told him that his controller had just cleared my aircraft to land while another aircraft rolled into position for takeoff.

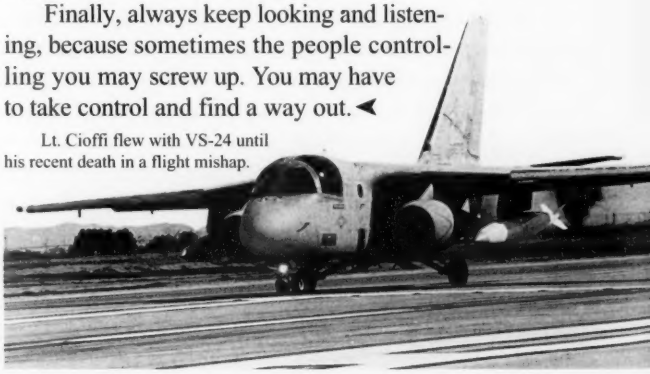
Again, there was silence for a few seconds before tower cleared us downwind. We then landed.

After landing I debriefed with my COTAC. He thought tower had cleared the other plane onto our runway, but since we were in the middle of our landing checks, he figured he was mistaken and that tower must have meant the parallel runway. The tower supervisor confirmed the controller's error and said they were investigating the incident.

This brought out a few points that might make you change the way you do business. First, for some strange reason, few aviators like to turn on their taxi light. Yes, it is common courtesy not to leave it on when taxiing toward oncoming traffic, but a flash will definitely catch another crew's attention and possibly prevent a disaster. If this particular pilot hadn't done so, it would have ruined both our days.

Second, when rolling into the groove at night, it doesn't hurt to turn on your taxi light to let other folks know you're coming. These things might not be taught as standard procedure, but maybe they should. I now turn on my taxi light as I prepare to take the runway at night and as I roll into the groove.

Finally, always keep looking and listening, because sometimes the people controlling you may screw up. You may have to take control and find a way out. ◄



Lt. Cioffi flew with VS-24 until his recent death in a flight mishap.

DM3 KickingWoman © 95

There is a reflex among maintainers that's been around as long as aviation. When we sense pressure, real or self imposed, we look for the quick fix. That reflex led to a maintenance axiom that's still with us: We never have time to do it right, but we always have time to do it over.

The Quick Fix

by Lt. Dan Deutermann

During the early weeks of deployment aboard USS *Belleau Wood*, my HH-46D SAR detachment learned a valuable lesson about quick fixes. We had an H-46 that taxied like a drag racer.

Of the two aircraft assigned to the det, one (side No. 07) came from SDLM in Atsugi, Japan. I was part of the FCF crew that accepted 07; it took only two days to get her FMC.

The other bird, 01, came from our squadron, home-based on Guam, the same day we finished checking 07. That second aircraft had some gremlins, but on the whole was also FMC. It gave severe pitch kicks through the No. 1 automatic flight control system (AFCS).

Troubleshooters traced the problem to a bad pitch-control position transducer. After neutralizing the lower flight controls to adjust the transducer, the troubleshooters noticed that the longitudinal stick-position indicator was 5 inches forward instead of at neutral. Closer inspection revealed the indicator was broken. After replacing it, the troubleshooters decided the flight controls were out of rig.

This aircraft rode high on the aft mainmounts, which made it light on the wheels while taxiing on the flight deck. It was the fastest ground-taxiing H-46 in the fleet. This speed was because of a change that lowered overall Nr of the rotor system. The out-of-rig flight controls made the problem worse.

In one instance, back on Guam, the aircraft didn't wait for the pilots to finish hot-seating. The helo decided it was time to taxi and rolled over the chocks toward a terrified plane captain. The aircraft commander, inside and alone, couldn't stop the aircraft because it was too light on the wheels for the brakes to hold. He opted to get the aircraft airborne immediately, with the AFCS off, to protect people outside the aircraft. No one was injured, but the event set off alarms. We had to get those mainmounts down and stop this aircraft's drag-racing career.

After consulting with the Boeing tech reps and the wing's maintenance department, the squadron checked the flight-control rigging. They determined the aircraft was in rig. Further checking revealed that the pitch transducer was out of adjustment. Once adjusted, the aircraft was back in flying status. Over the next two months, mechs adjusted the transducer several times because it wouldn't stay adjusted.

When the aircraft arrived in Japan for its first deployment in nearly two years, 01 was still twitchy — riding high and gunning for the H-46 land-speed record. This time, a det troubleshooter went in to adjust the pitch transducer, which he found out of limits. Upon seeing the stick position reading 5 inches forward of neutral, the maintainers concluded that the entire flight-control rigging needed to be checked— again.

Unfortunately for our four maintenance people, the entire flight-control system was 5 inches out of rig; and they knew no "quick fix" would cure it. They spent 32 of the next 48 hours re-rigging the entire system. After four FCF flights and the help of a new vibration-test system, the helicopter was flying nearly as smoothly at its max speed of 145 knots as it did in hover. The highest vibration in all four monitored channels was .002 inches per second.

The aircraft no longer rode high on the mainmounts, nor did it taxi fast. As an operator, I am grateful for those four maintainers' hard work when I consider what might have happened if they had settled for the quick fix.

Lt. Deutermann was the Det Six O-in-C for HC-5 when this incident took place.

Tear out this insert! Post this newsletter until it's old news, then flip it over as a poster.

Milestones

Command	Date	Hours	Years
VS-29	07/19/95	10,969	4
VC-8	01/18/95	33,185	10
HSL-41	01/21/96	75,775	13
VFA-204	01/30/96	55,789	15
VP-46	01/30/96	226,750	32
HS-6	02/23/96	22,202	7
VAQ-138	02/24/96	24,495	14
VP-40	03/01/96	192,372	29
VF-14	03/23/96	2,800	1

Class A Mishaps

The following Class A Flight Mishaps occurred between 24 Feb-3 Apr '96

Aircraft	Date	Command	Fatalities
EA-6B	02/24/96	VAQ-135	2
Prowler lost at sea; failed to recover from nose-low attitude.			
AV-8B	02/29/96	VMA-311	0
Harrier caught fire and crashed during low-altitude training.			
AH-1W	03/01/96	HMLA-167	2
Super Cobra crashed into the ground during ferry flight.			
FA-18D	03/07/96	VMFA(AW)-533	0
Hornet did not return from night-IFR flight over the Atlantic.			
S-3B	03/15/96	VS-24	2
Viking crashed into the water after a night launch off the cat.			
T-45A	03/17/96	VT-22	0
Goshawk crashed while attempting arrested landing on runway.			
CH-46E	03/19/96	HMM-261	0
Sea Knight caught fire after takeoff, made emergency landing on runway and burned.			
T-44A	03/25/96	VT-31	0
King Air crashed into water during student-training flight.			
AV-8B	03/25/96	VMA-211	0
Harrier pilot reported fire and ejected safely over land.			
FA-18C	04/02/96	VMFA-323	0
Hornet crashed during air-to-ground mission; pilot ejected.			
FA-18C	04/03/96	VFA-151	0
Hornet crashed at a during training flight; pilot ejected.			

Class A Mishaps Rate

	FY96 to Date		FY95 to Date	
	No.	Rate	No.	Rate
Navy/Marine	23	2.78	20	2.50
All Navy	13	2.09	13	2.21
All Marine	10	4.83	7	3.31
NAVAIRLANT	2	1.13	2	1.27
NAVAIRPAC	7	3.92	8	4.41
MARFORLANT	5	7.31	3	4.21
MARFORPAC	4	3.95	4	3.82
NATRACOM	2	1.24	2	1.25
NAVAIRRES	2	2.43	1	1.51
4th MAW	1	4.75	0	0.00
NAVAIRSYSCOM	0	0.00	0	0.00
Non-MARFOR	0	0.00	0	0.00
OPNAV	0	0.00	0	0.00

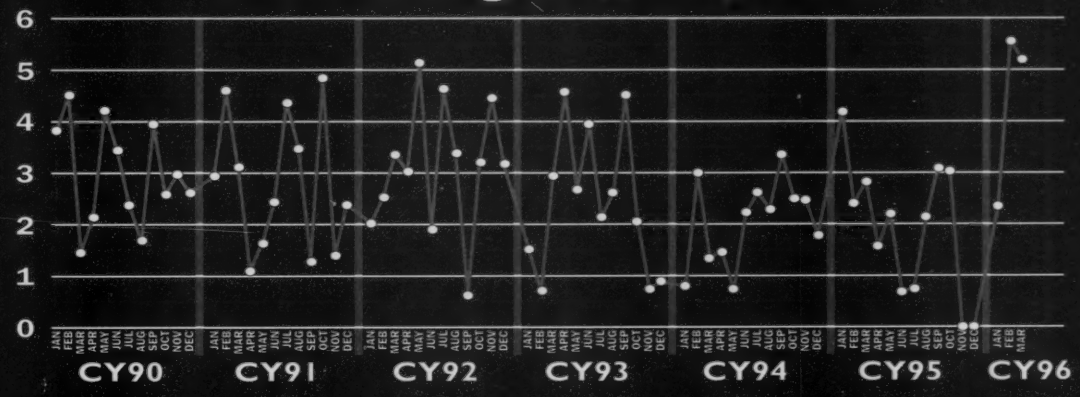
No, Low Mishap Rates Haven't Abandoned Us

Though certain months recently had high rates (e.g., September and October 1995 and February and March 1996 - see chart below), extensive analysis of mishap trends from January 1990 through March 1996 shows that historically, *no month has consistently high mishap rates*. The rates tend to oscillate between occasional high-rate periods and low-rate periods.

For example, if you look at the chart you'll see that before the high September rates of 1993, '94 and '95, the rates were very low in 1991 and '92.

We also had high October rates in 1991, '94 and '95, but low rates in 1990, 92 and 93. The best conclusion you can draw is that similar trends occur for any month with a seemingly high rate.

Class A Flight Mishap Rate



Printed as a supplement to *Approach Mech* by
Commander, Naval Safety Center
Data: Dr. Michael S. Borowsky
Design and layout: Laurinda Minke
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Call the FAA Rep About Your Flight

by Lt. Kyle R. Ketchum

After our Friday afternoon FCLP brief, we engaged in the typical planning of the weekend's activities and, more importantly, that night's events. I was scheduled to fly with our squadron's newest pilot, with whom I had not flown before. Maintenance control told me they needed an FCF on our aircraft, and the skipper had just approved the check-and-go. It looked like a pretty painless Profile C. One trip around the box would suffice to complete all items before entering the pattern for the standard LSO flogging.

My copilot and I briefed the FCF, crew coordination and emergency items. We taxied out and called tower for clearance to enter the GCA box pattern. Tower soon cleared us for takeoff with instructions to comply with the SID and to contact center passing 2,000 feet.

As we passed 2,000 feet, on our way to the published altitude of 5,000 feet, my copilot checked in with center. They replied, "Roger, radar contact. Maintain 2,000 feet and turn right 060." Once established on altitude and heading, we did the few required items on our FCF checklist. Our crew coordination was working well, and all was going as briefed, except that we were still at 2,000 feet.

The copilot tried calling center for a climb and turn to base leg. Because of our low altitude, we couldn't reach center, and the distant mountains began to fill our windscreen. We decided to climb to the published minimum-safe altitude.

As we passed 3,000 feet, a controller's broken voice instructed us to climb and turn right to 210. We rogered the instructions and complied. We felt that the controller had the bubble back, and our roller-coaster ride might be over. Not so. We were quickly approaching the final approach course with still no instructions for a turn to final. My heads-up copilot tried unsuccessfully to reach center several times. At that point, we had no choice but to turn inbound, contact the tower VFR, and enter the pattern through the overhead.

Tower cleared us for the break, and once we were on deck, asked us a few questions and remarked that center had been having a tough day at the office.

The following Monday morning, I was startled when the SDO handed me the phone number and name of an FAA representative who had just called. What a way to start a Monday. My mind raced as I pieced together all that had occurred on the flight just a few days before. The voice at the other end of the line quickly put me at ease when he told me that my actions were not being questioned. He was just asking for information so that he could reconstruct the scenario and make sure it would not occur again. The FAA representative told me that the controller had been temporarily suspended for holding our aircraft below a minimum safe altitude.

I didn't want the controller punished for what occurred during that short flight, but such a mistake could have been fatal had the weather or other circumstances been worse. Also, the one factor that must remain consistent in any situation is well-briefed and practiced crew coordination, whether it is your crew's first or hundredth flight together.◄

Lt. Ketchum flew with VAW-114 and is now an instructor with VAW-120.

Strategic

by LCdr. Scott A. Shappell and

When you are tired and sleepy, or if you think you're going to be sleepy during long flights, strategically placed naps may be beneficial. Strategic napping involves knowing when to nap and for how long, as well as knowing the potential effects napping may have on performance immediately after waking.

When to nap

There are two periods during the day when it is easiest to fall asleep. These are the best times to nap. One of these periods is between 1200 and 1500. The feeling of sleepiness during this time of day is referred to as the "post-lunch dip," although eating is not its primary cause. In any case, early afternoon is a good time to nap since the body is set to shift gears, making sleeping easier.

The other time is just after your typical bedtime at night. For one or two hours your body is conditioned to go to sleep. Therefore, napping during this two-hour window is also relatively easy.

When not to nap

Most people find it very difficult to nap within two hours before their regular bedtime; therefore, trying to nap during the late evening hours is not a good idea. Another time during the night when you should avoid napping is between 0300 and 0600. During this period, called the circadian trough, body temperature is low, and the tendency to sleep is strong. Be aware, however, that it can be very difficult to wake up during this period. You shouldn't nap during this period if you need to keep your nap short.

How long to nap

Short naps are good for restoring energy during long work hours and should last for at least 10 minutes to be of any benefit. Short, restorative naps, however, should not exceed 30 minutes. After 30 minutes of sleep, the body enters a stage of deep sleep, and it is much harder to wake up and function immediately. Longer naps are good for preventing sleepiness during a mission or a long night shift. Long naps should last approximately 1.5-2 hours. Long naps allow the body to go through a full cycle of deep sleep, which tends to reduce sleep "pressure." They also permit waking in a light stage of sleep, so you feel more refreshed.

Side effects of napping

Though napping can help you through long work hours, you should be cautious about flying immediately after waking, because sleep inertia is likely. Sleep inertia is that sluggish, confused, state that occurs immediately upon waking. During this period, you may be less alert and coordinated than you were just before your nap.

Keep in mind that naps longer than 30 minutes but less than 1.5-2 hours may lead to extended sleep inertia because you woke up during a period of deep sleep. In any case, the body always needs time to spool up after every nap. Therefore, don't nap during flight or while manning the Alert 15 or Alert 30 aircraft.

Practice napping

Practice naps are also a good idea. Although this may seem unnecessary

Napping

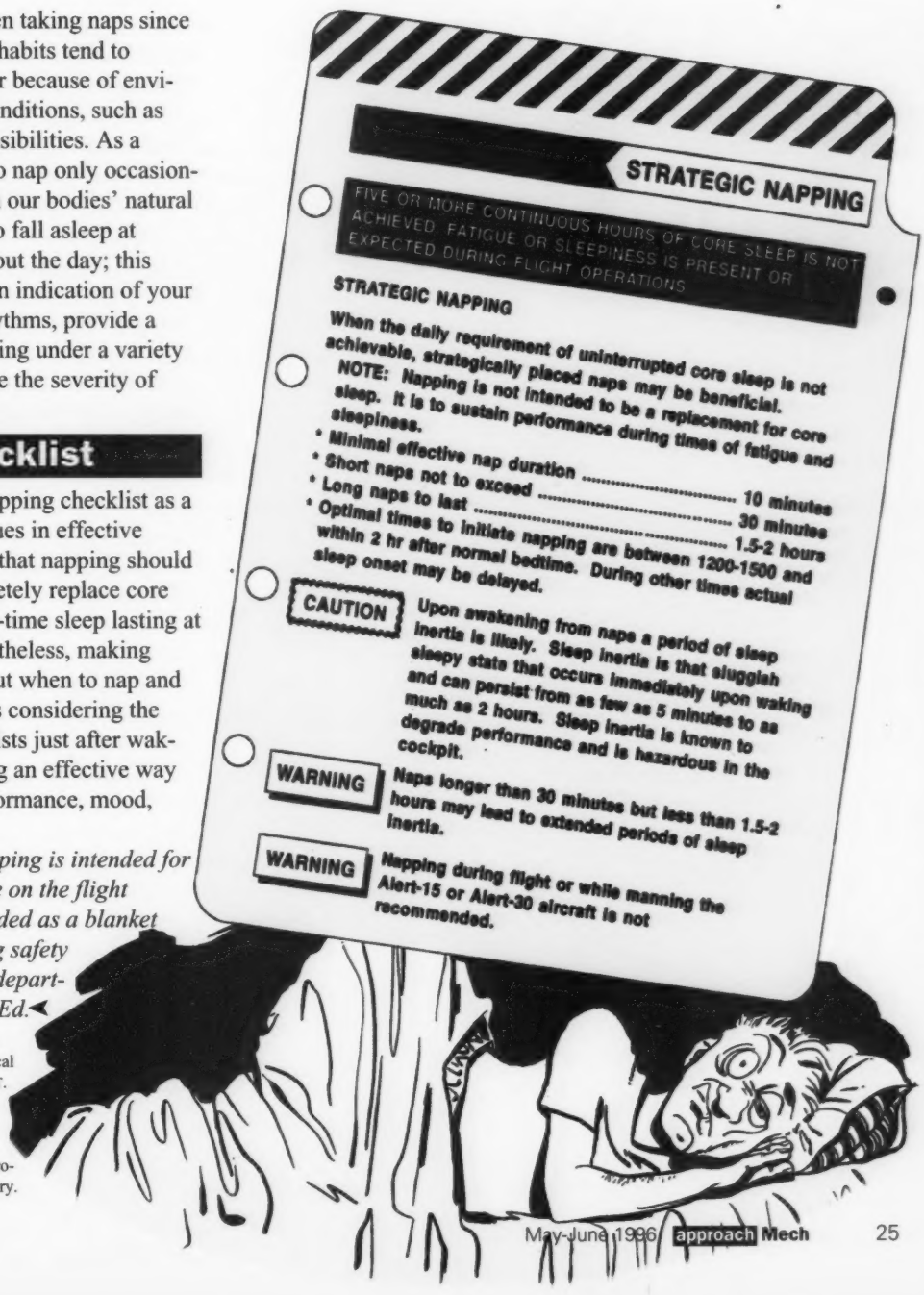
l and *Lt. Douglas A. Wiegmann*

because we have all been taking naps since we were born, napping habits tend to diminish as we get older because of environmental and social conditions, such as work and family responsibilities. As a consequence, we tend to nap only occasionally and lose touch with our bodies' natural napping rhythms. Try to fall asleep at different times throughout the day; this practice will give you an indication of your body's natural sleep rhythms, provide a chance to practice napping under a variety of conditions, and gauge the severity of sleep inertia.

Napping checklist

Use the strategic napping checklist as a reminder of the key issues in effective napping. Keep in mind that napping should never be used to completely replace core sleep (continuous night-time sleep lasting at least five hours). Nevertheless, making educated decisions about when to nap and for how long, as well as considering the potential inertia that exists just after waking, helps make napping an effective way of improving your performance, mood, and safety.

Note: Strategic napping is intended for use by aviators who are on the flight schedule. It is not intended as a blanket excuse for not attending safety standdowns, AOMs or department head meetings.— Ed.


STRATEGIC NAPPING
FIVE OR MORE CONTINUOUS HOURS OF CORE SLEEP IS NOT ACHIEVED, FATIGUE OR SLEEPINESS IS PRESENT OR EXPECTED DURING FLIGHT OPERATIONS
STRATEGIC NAPPING
When the daily requirement of uninterrupted core sleep is not achievable, strategically placed naps may be beneficial.
NOTE: Napping is not intended to be a replacement for core sleep. It is to sustain performance during times of fatigue and sleepiness.
• Minimal effective nap duration ..... 10 minutes
• Short naps not to exceed ..... 30 minutes
• Long naps to last ..... 1.5-2 hours
• Optimal times to initiate napping are between 1200-1500 and within 2 hr after normal bedtime. During other times actual sleep onset may be delayed.
CAUTION
Upon awakening from naps a period of sleep inertia is likely. Sleep inertia is that sluggish sleepy state that occurs immediately upon waking and can persist from as few as 5 minutes to as much as 2 hours. Sleep inertia is known to degrade performance and is hazardous in the cockpit.
WARNING
Naps longer than 30 minutes but less than 1.5-2 hours may lead to extended periods of sleep inertia.
WARNING
Napping during flight or while manning the Alert-15 or Alert-30 aircraft is not recommended.

LCdr. Shappell is the Force aerospace psychologist/aeromedical safety officer at COMNAVAIRLANT.

Lt. Wiegmann is an aerospace psychologist studying the relationship between sleep loss and performance at the Naval Aerospace Medical Research Laboratory.

Inches From My Face!

by Lt. Richard Gruenhagen

Ah, Friday morning in San Diego. Another sun-filled weekend of beaches and surf would soon be here. What better way to kick it off than with an all-JO section low-level? It was a route I had never flown before, and I was thrilled.

Our brief began at a reasonable 0700. We were scheduled to fly VR-1257, then drop six Mk-76 practice bombs each in the Moving Sands/Cactus West target area. I had observed on my drive to work that, once again, we would be taking off into the "June gloom," the common term for San Diego's morning marine cloud layer.

The layer hangs roughly 2,000 feet over the departure end of Miramar's runway 24 from mid-April through the end of June. Of the two assigned aircraft, one was configured with external tanks, the other was clean. Taking these factors into consideration, our flight lead briefed that we would make a flight-leader separation takeoff and join-up below the cloud layer before our climb.

Man-up, start and taxi proceeded normally, but we were delayed briefly in the hold-short while lead troubleshot a minor problem. We took off about five minutes after our scheduled departure time, but that was OK.

We joined up as we leveled off at 2,000 feet MSL, just below the marine layer. We were almost joined (our airspeed nearly matching lead's) when he disappeared for a split second into a cloud. What I saw next I will never forget!

Our closure rate was too fast as we followed him into the cloud, with only three airplane lengths separating us.

When he reappeared, he was in our face, larger than life, at what seemed like inches from our aircraft. As I keyed the ICS to call, "Break right!" my pilot reacted to the heart-stopping sight of another F-14 descending in a hard right turn to 1,800 feet MSL.

"We hit him," I remember screaming as we leveled off. While my pilot and I recaged our brains, lead declared an emergency and climbed to 2,500 feet, where he broke out on top. Once we confirmed we were clear of each other, lead called for us to climb through the cloud layer to 2,300 feet, then check ourselves over. During our inspection, I saw that lead's right wingtip was bent downward, while he saw a matching upward kink in our left outboard flap. Both aircraft handled normally, so we proceeded on individual visual straight-in landings with our flaps up.

Days later, after I had stopped shaking, I reflected on just how lucky we had been. Any minor variation to this scenario and we could have easily been killed and rained debris for miles over a heavily populated area of San Diego. As it was, we lived to tell about it.

Formation flying in tactical aircraft is so common that we often become immune to its danger. Lead had glanced at us just before flying into the undercast. His RIO was head down in the cockpit during a crucial phase of the joinup. We wingmen didn't see the upcoming clouds and, as a result, did not break off what quickly became an extremely uncomfortable situation.

As a result of this incident, the hair on the back of my neck stands up whenever I get close to another aircraft in reduced visibility. All four aircrew could have taken action to avoid what happened that day. As a squadron we are now much more aware of the routine items and brief them thoroughly. I have a much keener awareness of the danger involved in what we do every day. ◄

Lt. Gruenhagen flies with VF-211.

Flying Form Is Never Routine

by Lt. Jeffrey Hensley

I was the wing pilot in the previous incident. Our mid-air affected the way I fly today.

To begin with, there is nothing routine about flying formation, especially in reduced visibility. The weather in this situation was not unusual for that time of year, and because of this fact (coupled with the ever-present I-can-hack-it mentality), both aircraft pressed a rendezvous was uncomfortable and almost catastrophic.

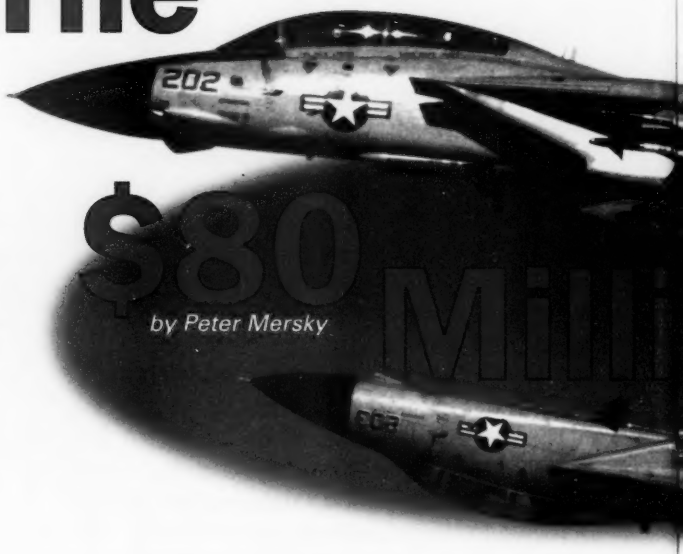
Furthermore, after an extremely aggressive maneuver in an attempt to avoid collision, I found my aircraft in a highly unusual attitude: 135 degrees right wing down and 20 degrees nose low, in IMC at low altitude. This was a very disorienting position and could have been disastrous.

Granted, you may never find yourself inverted in the goo, but should it happen, a quick, correct recovery would definitely help. Periodic training in unusual attitudes in an instrument trainer could help reduce reaction times and save someone's life.

Finally, we need to brief lost-sight plans, keeping them fresh in everyone's mind on what to do should sight be lost. In this instance, all the aircrew responded quickly and correctly to avoid aggravating the situation. But, in a scenario such as this, it is easy to get overwhelmed by events, and there simply is not enough time to stop and think about the best follow-up action. ◄

Lt. Hensley flew with VF-211 and is now assigned to Naval Recruiting District Dallas.

The $80 Mill



by Peter Mersky

Everyone likes a good photo of their squadron's plane, sailing along in a golden sunset or sunrise, festooned with backlit clouds. Or how about a shot of your favorite jet loaded out with Sparrows and 'winders? A photo-ex provides a great opportunity to get these photos. Unfortunately, we've lost aircraft and lives taking these photographs, gaining a lot of bad publicity for the squadrons and the Navy.

A new fighter skipper wanted just such a shot of one of his Tomcats. After all, everyone knew the squadron was one of the best, with eight years of mishap-free flying, awards for fighter meets, a terrific across-the-board attitude, and immaculate squadron spaces.

Two F-14Ds were scheduled for the photo-ex, with one carrying six Phoenix missiles and two Sidewinders, surely a "John Wayne" loadout. The two original crews planned and briefed the flight. However, weather closed the NAS, and they canceled the flight.

The following day, the weather cleared enough for the flight to go, and after re-briefing the hop, the two crews manned up and taxied out. Fate took a hand again, and the camera plane went down at the hold-short. The Phoenix bird's pilot, the squadron XO, needed the flight time and launched solo. He flew for an hour and returned.

The photo mission was still on the minds of the JO crews, and a third event launched with four lieutenants. Experience varied widely among the four JOs, from the section-leader pilot with 1,126 hours to the junior RIO, who had just joined the squadron — on probation from the FRS — with 324 hours total time. The section-leader had been scheduled on the original mission that had been scrubbed because of weather the previous day. He was anxious to fly this mission. The brief left a lot to be desired, but with his junior RIO behind him manning the cameras, he launched with the Phoenix-carrier.

The first try at a vertical break should have warned the two crews that this would not be a simple matter of pulling back on the stick and taking pictures. They tried again. For whatever reason, the pilot of the missile plane did not place the wing-sweep in auto. To make things worse, the camera plane's pilot did not pay attention, and his RIO was too busy taking the photos to provide any backup. The planes were too close — they had briefed a much greater distance — and before anyone could react, they collided.

By the time the water had settled, we had lost two F-14Ds and their accoutrements. Four crewmen had taken the nylon elevator down to sea level. There was lots of blame to go around, and it was duly distributed.

There is nothing wrong with this type of photo mission. It's good for morale in the squadron, produces a tangible product that the Navy can use to its benefit, and lets taxpayers see their Navy and Marine Corps in action. However, the paths that individual squadrons and crews use to get the product vary considerably, as does their ability to survive when things go wrong.

The planes were too close — they distance — and before anyone

I recall a mishap in 1979 involving a Marine Corps Air Reserve squadron. The CO of the F-4 unit had been tasked by HQMC to fly a *Time-Life* photographer during a weapons det to Yuma. The civilian was an aggressive, well-published photographer, who had flown in several types of service jets. Although he arrived late for the brief — with Air Force flight gear — things were smoothed over, and the flight launched toward the range.

During the return leg, the photographer told his pilot that he would like to get a shot of their wingman's cockpit against the desert floor. The CO rogered, then began a canopy roll over the second Phantom. Midway through the maneuver, the planes collided, and the four crewmen found themselves in their chutes.

For his unbriefed aerobatics, the skipper lost his command and was forced to retire. The photographer lost his camera and his pictures. The Marine Corps lost two aircraft.

heyhad briefed a much greater
onecould react, they collided.

Again, there was absolutely nothing wrong with the original concept of the mission. COs and their squadrons should never look on such tasking as a pain or inordinately dangerous.

However, even with the best attention to briefing details, and with everyone understanding the importance of adhering to the brief, things can go awry. In another mishap, a Marine Corps squadron planned to fly a well-known civilian photographer, who was also a senior Naval Air Reserve aviator. He certainly understood safety of flight. The Cobra and Huey, with the photographer, launched and headed out over the water for their shoot.

The helo pilots had their individual attention diverted for a few seconds; the Huey crew chief was on the wrong side of the aircraft, and no one was looking where they should. It took only a moment: the helicopters' main rotors hit, and the Cobra and Huey went into the water. The photographer and Huey HAC died.

Perhaps by the time you gather 2,500-3,000 hours, scare yourself silly and survive several times, and advance to at least senior O-4 rank, you lose some enthusiasm for PAO shots. You have enough sunrise and sunset pictures, and a Phoenix looks the same on any Tomcat. Besides, why risk trying to get that one fantastic shot by rolling around an imaginary point in the sky?

Aircrews should understand and consider that the risks are much higher than they seem. If you fly civilian photographers, remember they want the best photo and may not understand the dangers of their requests. Everyone in the flight must understand that a photo-ex is more than a formation flight. ◄

BRAVO ZULU

BZs require an endorsement from the nominating squadron's CO *and* the appropriate CAG, wing commander or MAG commander. In the case of helo dets, the CO of the ship will suffice. A 5-by-7-inch photo of the crew by a squadron aircraft should also accompany the BZ nomination. Please include a squadron telephone number so we can call with questions.

LCdr. Scanlan, ADC Moustakakis, AEC McIntire and Lt. Banitt

VQ-3

LCdr. Jim Scanlan
Lt. John Banitt
ADC Eleftherios Moustakakis
AEC Kolin McIntire

After completing touch-and-goes at Clinton-Sherman Field, the crew of Razz 19 was on approach to Sheppard AFB for a full stop. Upon selecting flaps to 25 degrees and gear down, AEC McIntire (FE) told LCdr. Scanlan (AC) and Lt. Banitt (copilot and PAC) that the hydraulic quantity was decreasing. LCdr. Scanlan ordered AEC McIntire (FE) and ADC Moustakakis (FE-1) to begin the hydraulic leak-isolation checklist, while he declared an emergency and requested holding. Lt. Banitt maintained the existing configuration and entered holding while the FE broke out the checklist.

As the crew accomplished the checklist, the leak stopped at 5.4 gallons, which would normally indicate a leak in the auxiliary hydraulic system. The E-6A has utility and auxiliary hydraulic systems, which are interconnected so that loss of fluid in the auxiliary system leaves a minimum of 5.4 gallons in the utility reservoir. The crew then tried to restore the utility hydraulic system, but the leak continued. Loss of the utility hydraulic system would result in losing the leading edge flaps, outboard spoilers, normal reverse thrust, and nosewheel steering. The crew would also have to manually extend the landing gear and could not retract the gear in case of a go-around. This configuration significantly complicates the landing and stopping of a 225,000-pound aircraft.

The crew went back to the beginning of the checklist and once again tried to isolate the leak. This time, they isolated the leak to the No. 3 engine-driven utility hydraulic pump. After securing the pump and its fluid shutoff valve, the crew stopped the leak with three gallons remaining in the reservoir and all hydraulic systems operating normally.

They canceled the emergency and returned to Tinker AFB where Lt. Banitt landed safely.

Postflight inspection revealed a blown garlock seal on the leaking hydraulic pump. The leak only registered on the hydraulic quantity gauge when a demand was placed on the utility hydraulic system, such as selecting gear and flaps down or turning in holding (ailerons are assisted by the spoilers).

HMM-164 (REIN)

Sgt. Brinkman, Maj. Rouse and Capt. Walters

Maj. James G. Rouse, USMC
Capt. Patrick B. Walters, USMC
Sgt. Michael A. Brinkman, USMC

Maj. Rouse (HAC) and his crew made a pier-side launch from USS *New Orleans* at Aqaba, Jordan. Temperatures were over 100 F with a density altitude of 3,000 feet at sea level.

As he transitioned to forward flight, Maj. Rouse heard the No. 2 engine wind down and saw rotor rpm decrease to 87 percent. He told Capt. Walters (copilot) to secure the engine's power management system (PMS).

Realizing that he didn't have enough power for single-engine flight, Maj. Rouse told the ship he would have to ditch. He decided not to engage the emergency throttle because he knew it wouldn't provide enough power for recovery and could burn up the No. 1 engine. He flared, leveled the aircraft, and pulled collective just before water entry.

After confirming that he couldn't take off, the HAC started to water-taxi toward a nearby beach. All crewmembers checked watertight integrity while Capt. Walters and Sgt. Brinkman (crew chief) made sure the helicopter emergency flotation system (HEFS) was deployed.

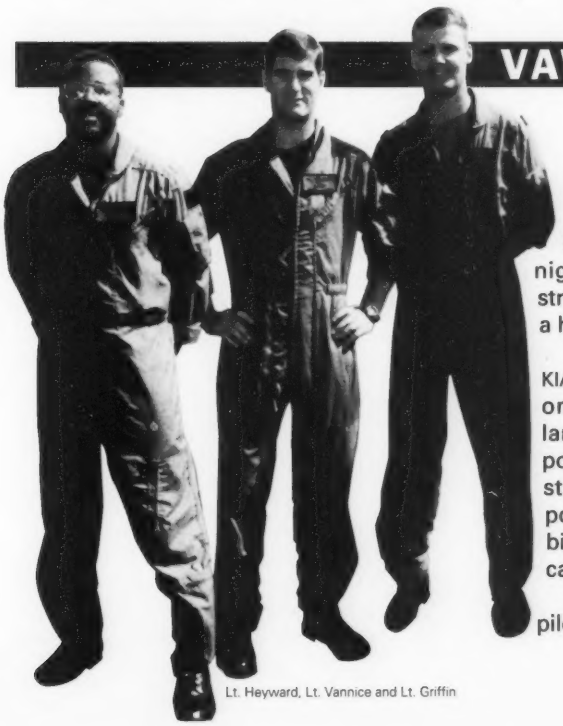
The No. 2 engine's fire light illuminated, and Sgt. Brinkman confirmed smoke coming from that engine. Following the HAC's direction, Capt. Walters retarded the throttle to ground idle. He had to return it to the fly position temporarily when a boat in the crowded harbor passed by, throwing a wake that jostled the Sea Knight.

After they had covered half the distance to the beach, Sgt. Brinkman again reported smoke from the No. 2 engine. Capt. Walters secured the engine and activated the primary engine fire-extinguisher bottle. He activated the secondary bottle when smoke continued to pour out.

The helicopter encountered a sand bar 50 feet from the beach, and since the aircraft was still unstable, Maj. Rouse knew he had to get to solid ground before shutting down. By pulling collective, he worked his way two feet from the shore. He then called the ship that he was safely ashore then began normal shutdown procedures.

All the crew got out, and the aircraft was recovered the next morning. Inspection revealed that the No. 2 engine's compressor had failed.

VAW-112



Lt. Heyward, Lt. Vannice and Lt. Griffin

Lt. Jay Vannice
Lt. Don Griffin
Lt. Ferando Heyward

While taking off from NAS North Island for a night CQ, Grey Ghost 603 struck 100-120 birds, part of a huge flock of seagulls.

Exactly at go-speed (115 KIAS), with maximum power on both engines and the landing light on, the E-2's port engine flamed out. Bystanders a mile away reported that the sound of the birdstrike sounded like a .50-caliber machine gun.

Several birds hit the pilots' windscreens, obliterating the forward view, and forcing them to go on instruments during this critical portion of the takeoff roll. Lt. Vannice (CAPC) used asymmetric power and brakes, with help from Lt. Griffin (copilot), to abort the takeoff, stopping the 54,000-pound E-2 on centerline with 1,000 feet remaining.

From wingtip to wingtip, and from the landing gear to the top of the radar dome, the Hawkeye sustained severe damage of more than $500,000, and FODed both engines.

AA Larry Moore
VXE-6 Antarctica

by JOC Brady Bautch

Airman Apprentice Moore, an aircraft handler at McMurdo Station, noticed a fire in the portable fuels-shack 20 feet from the fuel-storage tanks. He told his supervisor, grabbed a fire bottle and drove 200 feet to fight the fire. When the fire got out of control, he drove and returned with a chain and a tractor. He hooked up to the blazing building's sled and towed the building away.

"It just popped into my head that I had to get that building out of there, or we would have mass destruction," said AA Moore, who had been in the Navy only nine months. "Flames started coming out of the roof, and that's when I got really scared. I thought I was going to die.

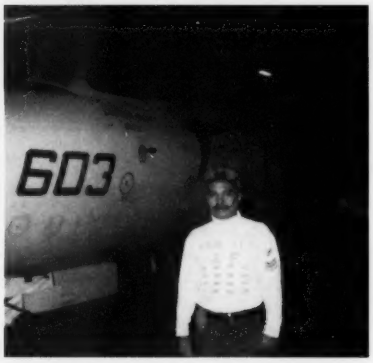
"I panicked and wrapped the chain around the hitches once instead of twice. Then, instead of easing the tractor ahead, I floored it, which could have snapped the chain." AA Moore saved the fuel tanks, a nearby ski-equipped LC-130 aircraft, a snowmobile, and another tracked vehicle called a Sprite.

AMH1 Robert C. McDermitt
VA-128

AMH1 McDermitt was flight-line coordinator for the day's launches. After starting an A-6's port engine, he noticed smoke coming from the exhaust. A visual inspection of the exhaust duct and engine bay indicated nothing abnormal. Not satisfied, AMH1 McDermitt got maintenance control to send a mech CDI for corroboration. The CDI examined the engine during multiple run-ups. All indications showed the engine to be in good condition, so the CDI gave the engine a "go."

As the Intruder taxied out, AMH1 McDermitt insisted the engine be examined more closely. The MCCPO called the aircraft back to the line. Further investigation revealed extensive cracking of the engine's diffuser case, with engine failure imminent.

By refusing to compromise, AMH1 McDermitt prevented an in-flight emergency.



AMS1 Joseph Cabauatan
VAW-117

AMS1 Cabauatan was checking for leaks on the elevator actuator of an E-2C Hawkeye. He found excessive play in the elevator's control linkage. Further investigation revealed the double-acting spring had failed inside the elevator's load-relief pushrod.

Undetected, the pushrod might have disconnected and caused the elevator-control system to fail in flight.

AE1 John Houston
AT2 Kevin Cox
AE3 David Moreno
AT3 Brian White
VA-52

AT2 Cox and AT3 White went up on the roof to work a TACAN gripe on an Intruder on board USS *Kitty Hawk.* AT2 Cox plugged in

AT3 White, AE3 Moreno, AE1 Houston, AT2 Cox

power, climbed the BN's boarding ladder, and noticed an odor of burning plastic, a symptom of thermal runaway.

He told AT3 White, who rushed to find a troubleshooter with the right tool to get into the battery compartment. He found AE3 Moreno, who alerted his supervisor (AE1 Houston), called the crash crew, and led AE1 Houston to the aircraft.

AE1 Houston removed the battery-compartment door and determined the battery was in thermal runaway. The crash crew threw it over the side.

AT1(AW) Daniel R. Ortega
VF-102

Petty Officer Ortega was doing a QA inspection in the intakes of an F-14B (on the hangar deck of USS *America*). The Tomcat had just had a maintenance check and was ready to be moved back to the flight deck. When PO Ortega pulled the starboard engine through by hand, he noticed a faint rattle. A visual inspection revealed no damage or FOD.

After conferring with squadron and AIMD mechs, maintenance control decided to remove the engine for further investigation. A borescope inspection revealed internal damage. If AT1 Ortega had not heard the rattle, the engine could have failed on the cat or in the air.

AD3 Edmond P. Hayes
AMHAN Robert J. Crowell
AE2 Tyrone Smith
AME2 Jefferey D. Nanny

NAWC Aircraft Division
NAS Patuxent River

After a Hornet returned from a test flight, AE2 Smith went beneath the bird under the control of AD3 Hayes to check for hot brakes. Satisfied with the starboard side, he went to inspect the port side. As he approached the port wheel, he saw AD3 Hayes give the fire signal to the pilot and saw flames around the starboard mainmount. He raced forward and lowered the boarding ladder as the pilot, Capt. Christopher Loria, secured both engines and egressed.

On the flight line, AME2 Nanny and AMHAN Crowell also saw the fire, quickly grabbed a fire bottle and fought the flames. The fire was rapidly extinguished by the four men.

Troubleshooters found a small hydraulic leak in the brake assembly. The fluid had misted and was not visible; it required very little heat to ignite. The brake wasn't overheated, and normally it would not have caused a problem. Fast teamwork prevented damage to the aircraft.

AMS3 Eddie Marbury
VP-5

After inspecting a discrepancy on the aft fuselage's access panel, AMS3 Marbury did his usual FOD checks in that confined area. He noticed a connecting bolt on the rudder's torque tube had sheared. The shank and nut from that fastener were lodged between a rib spar and the belly of the P-3C.

He checked the remaining bolts in the assembly and found two more sheared fasteners. Without using a wrench to turn each bolt, these discrepancies would have gone undetected. Petty Officer Marbury prevented an in-flight emergency by going the 18-inch rule one better.

Staring at a Sidewinder

by AT2 James A. Galli

PHAN D. Lavender

Things were happening fast. The FDC and I jumped into two Hornets to ride brakes.

It was business as usual at night on the flight deck. I checked my PCs to make sure they were ready with chains to recover aircraft.

Over my flight-deck communications headset, I heard that the next aircraft to land would not be from my squadron. I saw my flight-deck coordinator (FDC) heading toward the bow. As I joined him, we agreed that tonight's recovery was going to last a little longer than we first anticipated.

With our backs to the landing area as we approached the aircraft already parked on the bow, we heard a pop, followed by a bang. I jerked my head back toward the landing area and caught a glimpse of a parachute descending near the island. Then I saw the Hornet that had trapped, cocked toward the island.

...the Hornet lunged toward me with its engines popping like a shotgun firing.

Flight-deck troops sprang to life and hauled fire hoses across the deck. The FDC and I sprinted back toward the landing area. Now was the time to put all our emergencies training to work.

I heard flight-deck control call for all FA-18 PCs to man up the Hornets on the bow. One of my aircraft was already hooked to a tractor for an emergency pull forward while mechs hooked up another. As I looked for our PCs, I realized they were manning a fire hose.

Things were moving quickly, and we had to make decisions to match. I coordinated with the FDC to ride brakes, and we jumped into the two waiting jets.

Taking a moment to survey the landing area, I noticed the Hornet in the arresting gear had a collapsed starboard main-landing gear and both engines in afterburner. Hose teams were busy cooling the ordnance. When the water went into the intakes, the engines popped as though someone was firing a shotgun.

The tractor began to pull me forward, and the Hornet lunged toward me as one of its engines shut down. Then I noticed an AIM-9 Sidewinder pointing directly at me. I stared at that missile for what seemed like an hour before the tractor towed me out of its line of fire.

Once my jet was moved, the rest of the aircraft quickly followed, and the Hornet's second engine soon fell silent.

No lives were lost that night, and collateral damage was minimal. All hands using their training, teamwork and well-maintained equipment made the difference. ◀

AT2 Galli is night-check line supervisor for VFA-146.

Flaps Are *Not* Slides

by AN Paul Cortez

It was Thursday afternoon, March 19, 1992. Shifts were about to change. I planned to see a new movie at the base theater that night, but that isn't why I remember the day so vividly.

I was on top of aircraft 516, a tanker, with another PC trainee. It was our first time on top during a wash job. For a trainee, that's a privilege. We were just about done when I decided to climb down the BN's boarding ladder, but it was too dangerous. The canopy was closed, so I didn't have much to hold on to; the water made it very slippery.

The PCs on the ground offered to open the canopy, but I refused, thinking I would save them the trouble of pumping it open. Besides, I remembered that when I was washing the flaps, which were down, they resembled a slide. So, I went back there and looked. The flaps were so low it looked like you could just step down from them onto the ground.

I don't remember what made me feel so hurried, but I wanted down, and the flaps looked tempting. It would be quick, easy and harmless. In my mind, the only thing that could possibly happen to me was a bruise or some scratches if I were to tumble over when I landed.

I sat on top of a flap and pushed myself down. It was still slick with water. On the way down, I grabbed a flap louvre (the hump covering the flap tracks) to slow myself down. I felt a quick, sharp tug on my finger. I figured it was just a little cut.

I landed perfectly on my feet. I took a look at my finger to see how deep the cut was. To my horror, the tip of my pinky was gone! All I saw was blood squirting up from a little white bone in the middle of my finger. It couldn't be!

I went into shock. Then I became hysterical and started screaming, "My finger! My finger!" I couldn't believe I'd lost my finger so easily.

I've never felt so robbed and cheated. I was cursing the plane and anticipating the pain, but it never came because of shock. I ran around to the front of the Intruder where the PCs were, and they jumped when they saw what had happened to me. They told me to cover the rest of my finger and stop the bleeding. Luckily, there was a tractor and driver nearby who took me to the hangar. An ambulance took me to sickbay. They amputated my pinky because the other half was too contaminated to sew back on. I learned a lesson that day: Always work within SOP. Shortcuts can lead to trouble and shortened body parts. ◄

AN Cortez was in VA-52 when he lost the tip of his finger.

I became hysterical, screaming, "My finger! My finger!" I couldn't believe I'd lost my finger so easily.

It's Time for Hazardous Waste Smell-Down

A.L. Kealy
Norfolk Naval Station Recycling Program

At 0805, just like clockwork, the squadron walked the flight line. Several people noticed a funny smell, but no one said anything. When we went back to the starting point, speculation was we would walk the line again to pick up what we'd missed.

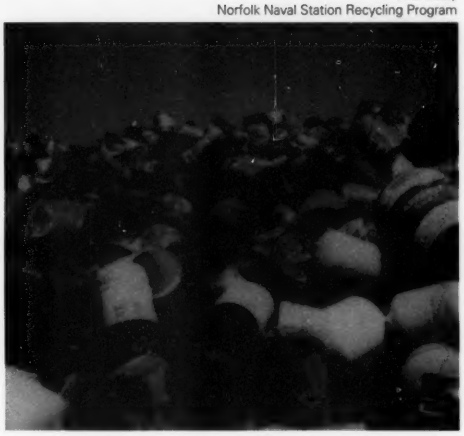
We lined up by the trash dumpster. The MO, MMCO, maintenance-control master chief, hazmat officer and hazmat supervisor were standing next to some cans near the trash container. We learned it was hazardous waste that had been pulled from that dumpster.

The only thing certain to happen on any given day is a FOD walkdown.

We have a hazmat program and a convenient hazardous waste site; why was this stuff in the trash? Was it an accident? A working party went through the entire dumpster pulling out contaminated articles.

Most of the trash had been contaminated with paint thinner. We found empty containers, partly full containers and even full containers of transmission fluid and paint thinner. We also found Amalguard, hydraulic fluid, canopy polish, naphtha, polyamide primer and full cans of spray paint.

Organizing a hazmat compound will keep you legal if you train your troops to use it.



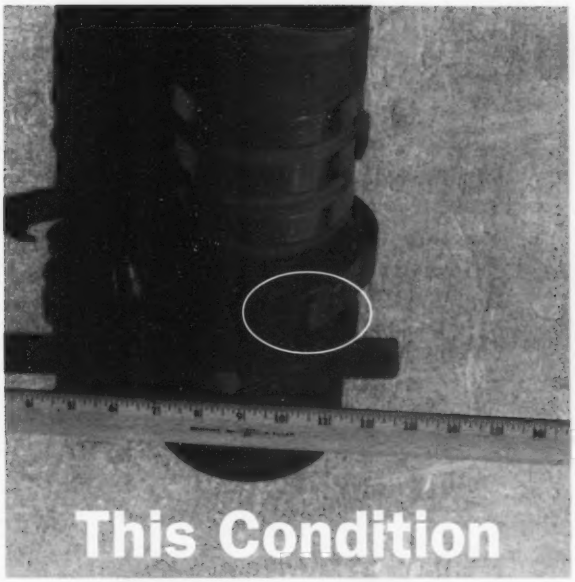
Fortunately, the safety officer of a sister squadron noticed the cans of hazardous materials in our dumpster and alerted us before it became a big hazard to the environment.

Public works could have charged us $20,000 to clean up our dumpster. And if that mess had made it to the dump, we could have been charged $80,000 to $100,000 clean-up costs in addition to an EPA fine. This was a relatively cheap lesson.

We did have an instruction in place, but we had to get our faces rubbed in our mess before we started disposing of hazmat correctly. The hazmat supervisor knew how to separate the materials and correctly dispose of them, but he wasn't getting cooperation from everyone. Checking into it, we found a general lack of awareness throughout the squadron.

We began holding classes in the shops, and included special training in hazardous waste in the quarterly training schedule. We also created a single point of issue to better control the amount of hazardous substances in the work centers. Finally, we train each hazmat petty officer individually.

Keep your people aware of hazmat through training. Having a program in place doesn't mean everyone is aware of it. Review it periodically to be sure on-going training is happening before *you* have to start checking your dumpsters. ◄



To the untrained eye, many hazardous conditions go unnoticed.

This Condition Is a Real Drag

by AD1 Glen E. Langley

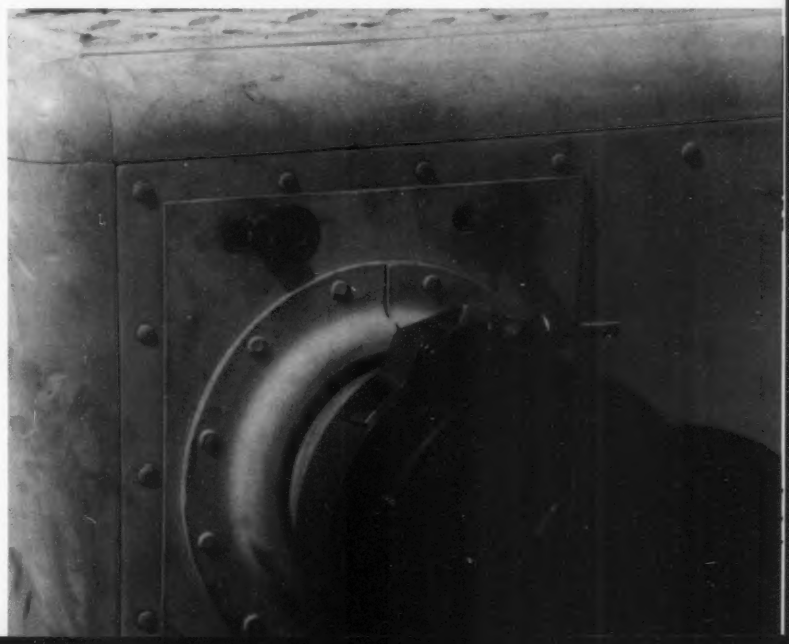
As the squadron's safety petty officer, I was thinking about hazards that we had found and corrected, and wondering if it was time to see if any had reappeared. For instance, there was a chafing problem with the V-band clamp that secures a quick-disconnect coupling to the Wells air-start unit on the flight line. The chafing is caused by dragging the hose and coupling under Tomcats to the opposite side of the aircraft where they can be stowed. When connected to the aircraft, the hose is pressurized to 75 psi. If a clamp should separate, the hose becomes a deadly flail, smashing everything in its path. I headed to the flight line to inspect the clamps.

Evidently, our training program was working. All the clamps but one were in good condition. Before I had a chance to grab my camera, the line division reported it, and it was promptly repaired by the SE troubleshooters. I was glad the unsafe condition was corrected and under control, but I wanted photos to send in with an article to *Approach Mech*. I decided to check out the SE used by other commands.

I didn't have far to go. If the hose assembly in these photos had been used one more time, a mishap could have occurred. We should share our concerns and problems with sister commands to help our shipmates avoid mishaps. In this case, correct handling of the Wells air-start unit's hose, by *carrying* instead of dragging it, will eliminate this hazard. ◄

AD1 Langley is VF-14's safety PO.

Squadron members who use this Wells unit thanked us for bringing the hazard to their attention. What kind of condition are your V-band clamps in?



Blizzard in a Bleed-Air Bay

by AD1(AW) Joseph P. Montoya

A flight crew finished their pre-flight at the beginning of a typical day overseas. During engine start, No. 4 wouldn't rotate. Mechs found a failed bleed-air valve and a broken bleed-air clamp. They replaced the valve, and maintenance control directed them to rob the part, start the paperwork, and get the mission out with minimum delay.

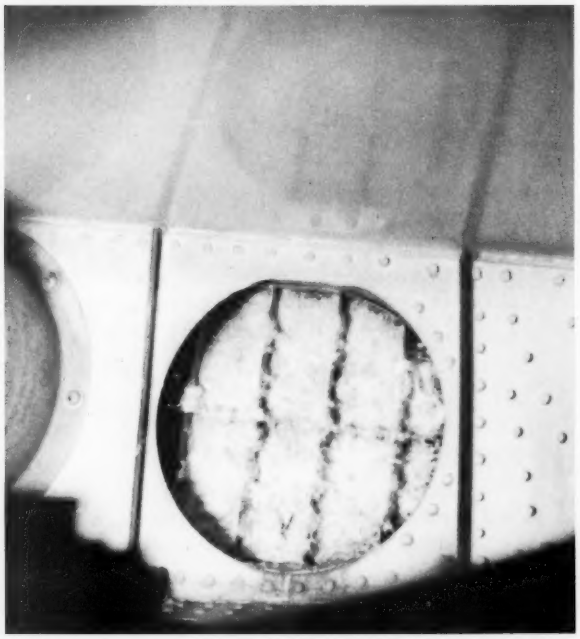
While robbing the part, an AD3 skipped the MIMs, thinking, "Well, it's only a bleed-air clamp." He removed the aft clamp from the bleed-air system, upstream from the valve, and installed it on the deploying aircraft. The scheduled Orion made its mission.

The replacement clamp, ordered for the second aircraft, was not in stock and went AWP off-station. During the next couple of days, maintenance control had the aircraft towed into the hangar for other maintenance. Eventually, it needed a low-power turn. During a mid-check maintenance meeting, the maintenance-control chief asked the power-plants supervisor, a flight engineer, if a low-power turn, using No. 2 and 3 engines, would be OK to check cabin pressure. Knowing the clamp was still missing from No. 4, the supervisor replied that it would not be a problem. He mistakenly believed the downstream clamp was the one missing.

The FE started No. 2 engine with the APU. When it was on-speed, he opened the fuselage bleed-air valve to pressurize the manifold and start Nos. 3 and 4. The FE noticed manifold pressure was only 50 psi instead of the normal 80 - 90 psi with an engine running.

The FE realized he was probably losing bleed-air pressure because of the missing clamp; therefore, he didn't try to start No. 3 and secured from the low-power turn. He told maintenance control about the situation but didn't write a discrepancy on the bleed-air loss. He believed that if anything had been wrong, the direct heat on the fire-warning element would have set off the fire-warning light in the cockpit.

The next morning, maintenance control ordered power plants to rob a bleed-air clamp from a third aircraft in order to permit the second aircraft to be low-power turned and go flying. The same AD3 went to install the clamp. When he opened the compartment to access the bleed-air valve, an area 2 feet by 4 feet by 2 feet, he found fiberglass throughout the compartment. It looked as if there had been a pillow fight inside. Every vent and port in the compartment was plugged with fiberglass. The heat-insulation blanket had peeled forward and torn apart. So, what went wrong?



Every vent and port had been plugged by fiberglass. We had to replace the insulation blanket, remove, clean and reinstall the engine, bleed-air ducts and cables.

If the AD3 had read the MIMs and followed the very specific removal-and-installation procedures, he would have pulled and tagged the bleed-air-valve circuit breakers and tagged the engine-power levers, "Do not start engines." As a result of this shortcut, the aircraft was down for repair of the bleed-air-insulation blanket and the removal and reinstallation of the engine, ducting, cables and so on.

Story over? Not quite. The day after the engine had been removed, maintenance control ordered QA to look over the aircraft. While inspecting, QA found the circuit breakers and power levers still had not been pulled and tagged. What does it take to convince people that no matter how simple a job may seem, they have to use the MIMs? ◄

AD1(AW) Montoya is assigned to VQ-2.

Watching the Action

by ADC(AW) Stephen M. Harvey

Most people wouldn't stand in front of a loaded weapon, but they forget that on the flight deck, every aircraft is a weapon. People who work the roof know it's dangerous. Why do these same people stay up there after their jobs are done?

On any given day, you can see people standing at the foul line to get a better look at the next trap. They also like standing next to the cats to watch the impressive takeoff of an F-14. Then there's the motivated Div-O who wants to show his people he's part of the team.

Most people have gone through a lot of expensive training to ensure our aircraft can launch, fly their missions and trap safely. It is the people, not the system or machinery, who make this happen.

The flight deck, with its continually changing launch and recovery cycles, arming and dearming, and general turnaround maintenance, can be very confusing. Anyone in the wrong place at the wrong time can be killed just for being there.

If you want to watch, go up to vultures' row on the island; you'll have a better view, and it's a whole lot safer. ◄

ADC(AW) Harvey is assigned to VAW-117.

However, you are still cordially invited to our FOD walkdowns and no-fly days.

Photo illustration by John W. Williams

Nobody Survives 30 G's

by LCdr. Tom Ganse

When the gun fired, the ejection seat launched squarely into the technician's chest and face with a 30-G impact. That's like stepping face-first in front of a fast-moving tractor-trailer. It took less than a second for the ejection seat to catapult from the cockpit to the overhead of the hangar. Doctors surmised the victim was dead before his body smashed into the I-beams and tumbled 30 feet to the concrete deck below.

Another ejection seat took center stage when an alert plane captain became suspicious of scratches in a canopy. Investigation proved the seat had not been securely attached to the top cross-beam, leaving it free to slide up the catapult tube. The scratches had been made by the seat's canopy breakers as they bounced and rubbed against the canopy.

A less-than-1G flight would have sent that seat through the canopy had the canopy breakers completed their job. Airloads then would have slammed the seat against the aircraft's skin and empennage, crippling or killing the occupant. Even if the pilot had survived, he would have needed the altitude, presence of mind and physical ability to pull the handle on a seat that had already ejected. Then he would have had to squeeze and pull the manual override handle. In other words, there was a mere 1/8th-inch of plexiglass between a HAZREP and a Class A mishap.

In the second incident, an alert PC thought she heard something fall into the cockpit while she was installing the ejection seat's headbox cover. Maintenance control downed the plane for a FOD check. Searchers found and removed a small metal grommet. During the search, technicians noticed a shim on the lower seat mount had slipped and wedged between two surfaces pulled together by the mounting bolt. They needed to remove the seat to get at the defective part, but decided there would be enough room if they just lifted (partially removed) the seat. There are no written procedures for partially removing that seat.

Lifting the seat allowed an O-ring to extrude. When the seat was lowered, it came to rest on the O-ring instead of the top of the catapult tube. To a casual observer, it appeared normal and allowed the safety interlock to partially seat. The subsequent cat shot and flight maneuvers broke the interlock free and allowed the seat to slide up the tube and scratch the canopy.

These two incidents involved ejection seats, but the underlying misguided attitude can spread quickly in any work center. If you take a shortcut and get away with it once, it becomes that much easier to do next time.

That attitude toward maintenance manifests itself in other ways as well. What if the pubs are wrong? What if you think there is a more efficient or safer way to do the job? Do you do it your way, or are you going to wait until someone gets hurt before you say, "Yeah, I knew that was going to happen one of these days"? If you believe the pubs are wrong, draft a TPDR and initiate a HAZREP as soon as you identify the hazard, and run it past QA and the MO for permission to modify that procedure.

What if the procedure is changed, especially if the new procedure is more difficult, time consuming or inconvenient? Will you keep doing it the old way "because we've done it that way for years and it always worked," or will you challenge the change? Perhaps it was instituted without operational considerations and needs to be revisited. No one can provide better information than you, the end user.

People do get killed when the pubs aren't followed. But preaching the "The Follow the Pubs" gospel is not the answer. Technicians don't wake up in the morning, count their fingers and say to themselves, "Hey, I've got too many fingers. I think I'll get rid of some of these extras at work today." A culture change is required. The leadership from maintenance control right up to the CO needs to establish an uncompromised commitment to professionalism, then train subordinates about what that means. ◄

LCdr. Ganse is a mishap investigator at the Naval Safety Center.

by AO3 Sutherland

High temperatures and cyclic flight ops can make a fast-paced day even more intense. We were 10 hours into this hectic day, ops hadn't slowed down at all, and the ship was recovering aircraft.

A bomb-assembly team (consisting of a crew leader with a radio headset, a QA/SO, and two team members) was building up Mk-76s. A second team was loading bombs for the next event. The flight-line coordinator called for a de-arm crew for yet another aircraft *on the double.*

At the bomb-assembly site, ignoring SOP and perhaps acting with his judgment affected by the new extenuating circumstances, the crew leader ordered the QA/SO and one ordie to accompany him for the de-arm. That left only one ordie to build up Mk-76s. Being a diligent, hard-charging ordie that he was, he continued to build up bombs.

During that process, a cartridge became lodged in a bomb body. The ordie removed the CAD and inspected the bomb. Seeing nothing amiss, he reinserted the cartridge. It looked flush with the inner lip of the bomb body, so he put in the striker pin, but the cotter pin would not install. He tried to remove the striker, but it wouldn't budge. He then used needle-nose pliers and a strip of banding material to force the cartridge and striker from the bomb body.

Any trouble guessing what happened next? That's right; the CAD fired and removed the tip of the ordie's right index finger. He was SIQ for 15 days and was given six months light duty. It could have been worse; losing the tip of a finger is nothing compared to an eye or hand.

Bad judgment can not only prevent a job from being done correctly, it can hurt people and keep the job from getting done at all. The next time you feel pressure on the job, think about the consequences of doing your job wrong. That second thought may keep you from writing yet another mishap report. ◄

AO3 Sutherland was attached to VFA-125 when this incident happened.

CROSSFEED

Cdr. M.B. Pearsall
Head, Aviation Maintenance and Material Division

AZCS(AW) Dan Steber
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AIRFRAMES

Yaw'I Come Back Soon, Y'heah?

by SSgt. W.E. Chambers, USMC

During control checks, the pilot noticed an audible click and unusual feel in the yaw controls when he applied full-right pedal. He did not feel the controls binding. Further cycling of the pilot's controls produced a feedback through the collective and cyclic when he moved the pedals to full throw while holding the collective stationary.

The hydraulic and AFCS systems were operating normally. The ground crew examined the entire flight-control system for the source of the binding and found a new, unused Adel clamp riding on the yaw-directional pushrod, forward of the bellcrank's attachment point. The compartment where the clamp was discovered is completely enclosed and separated from the avionics compartment.

The metal clamp's rubber jacket was intact, and rode loosely over the control rod. It touched the adjacent collective and cyclic control rods when the pilot cycled the pedals. This caused the binding and control-force feedback through the other controls. No evidence of damage, rubbing or witness marks were on any aircraft components or the Adel clamp.

They removed the Adel clamp, reassembled the control linkages and did another flight-controls check. The flight controls felt normal and didn't bind. Maintenance control returned the aircraft to flight status after a functional check flight.

The aircraft had flown 863 hours since new. There were no previous VIDS/MAF or log book entries to indicate that any organizational-level maintenance had been done in this or any other enclosed space that the flight control rods passed through. The screws holding the cover plates over the control rod channels showed no evidence of having been removed — no chipped paint, worn screw heads or broken sealant to suggest that the control-rod panel had been opened since installation at the factory. At some point in the aircraft's history, most likely during manufacture and assembly, someone had left a loose Adel clamp over the tail-rotor-control rod.

SSgt. Chambers is a maintenance analyst at the Naval Safety Center. He recently transferred from HMM-265.

LINE

A Very Expensive Bath

by AMCS (AW/NAC) Ed Winnett

The pilot of a T-34 was taxiing for takeoff and decided to rinse the dirty windscreen and canopy by running through the station's bird bath before departing. A grate leading into the rinse area shifted and allowed the T-34's nose tire to drop through. The nose dropped enough to allow the propeller to hit the ground.

The mishap report cited the washrack's poor construction, and said it would be kept closed until repairs to prevent the grates from shifting were completed. What it failed to mention was lessons that could have been learned by the operators.

Why did this pilot decide to go through a bird bath before he took off? I'm sure the T-34's daily, turnaround or preflight calls for cleaning or ensuring the canopy is clean. If they don't, shouldn't it be added, and if it does, wouldn't we want to emphasize the importance of making sure the canopy is clean before starting the engine?

If this pilot had left the chocks with a clean canopy, the mishap wouldn't have happened. So, if you have to look for mishap cause factors, critically evaluate how every element you find could have changed the outcome of the mishap. Determine if and how maintenance was a factor instead of simply saying it wasn't. There's always something to learn.

AMCS (AW/NAC) Winnett is a maintenance analyst who recently reported to the Naval Safety Center from HC-2.

MAINTENANCE MANAGEMENT

A Double Dose of AZ Magic

by AZ1(AW) Ronald C. Desmet

What inspections are required? AZs must be familiar with the requirements of inspection MRCs. The AZ must understand the scope and depth of an inspection, how long it takes, what parts or kits will be needed, and what log-book entries are necessary. The AZ must also know which part numbers, service bulletins and technical directives an inspection must include.

Shortly after taking over logs and records, I found two inspections that were no longer required because of an improved part that had been installed in our aircraft. If you verify part numbers listed on the MRCs, you will save the man-hours normally used to track inspections and the hours spent actually doing them. Maintenance people work hard enough to keep our aircraft flying without having to do unnecessary inspections.

It's just a part number. When airframes had to change a MLG shock strut, I asked their supervisor for the part number so I could verify it against the log book's high-time list. The number matched the log book entry for a "MLG ASSY LH." Curious why the log book identified a shock strut that way. I researched the part number. Reviewing our log books, I found disparities between part numbers that had been logged for our aircraft. I then went to the all-knowing PMIC to check the disparities. Much to my disappointment, the PMIC stated "All" as the correct number. That told me nothing. We might accept any part number in that slot when reviewing log books returned by SDLM.

Still not satisfied, I looked up the part numbers in the IPB. The numbers that crossed to the MLG ASSY LH/RH matched the ones listed for some of our aircraft, while others had numbers that crossed to the LH/RH shock strut assembly. I double-checked my findings with our tech rep, and he confirmed that these high-time part numbers had been documented incorrectly. The entire MLG assembly is removed and replaced at SDLM, not just the shock strut. This means the entire assembly is the high-time component.

Had this mistake gone unnoticed, we would have established a new high-time base-line when the shock strut was replaced, leaving the remaining components of the assembly in place to be used past their established high-time limit. That could have resulted in a landing-gear failure. Because of this discovery, we initiated a TPDR against the PMIC deck to specify a part number. The incident proves the importance of reviewing log books and the PMIC.

AZ1(AW) Desmet is the logs and records supervisor for VR-56.

AVIONICS

If You Aren't Sure, Call, "Time Out!"

by CWO5 Ted Gregory, USMC

An F-14 technician finished repairing a microswitch in a landing-gear handle. Prior to engine start, but after the pilot applied electrical power, the pesky light reappeared. The troubleshooter believed this was a recurrence of the original problem and troubleshot the discrepancy again. This time he raised the down-lock-override lever and cycled the landing-gear handle. It worked, so the troubleshooter believed he'd fixed the gripe.

The pilot started the engines. After the ground crew removed the pins from the landing gear, the pilot saw a landing-gear (transition) light. He summoned the troubleshooter and explained the situation.

The troubleshooter asked the pilot if he had cycled the landing-gear handle. The pilot was puzzled, but replied, "No." The troubleshooter asked him to recycle the handle, but the pilot was afraid the landing gear would collapse; he asked the troubleshooter about the weight-on-wheels interlock switch. The troubleshooter assured him it was OK.

Not convinced, the pilot talked it over with the RIO. The RIO didn't like the idea either, but despite their concern, they did as the troubleshooter asked.

With the engines running, the hydraulic system on-line, and landing-gear pins removed, the pilot raised the down-lock-override lever and cycled the gear handle. The nose gear retracted, and the nose hit the deck. The aircrew secured the engines and got out of the bird without further incident.

Conclusion: Raising the landing-gear handle with the hydraulic system pressurized will cause the gear to retract.

Moral: Knowing the systems and using your head could keep your nose off the ground.

CWO5 Gregory is the branch officer for power plants analysts at the Naval Safety Center.

SUPPORT EQUIPMENT

A Neat Fix for a Messy Job

by AMCS(AW/NAC) Ed Winnett

Shock struts protect aircraft by absorbing and dissipating loads during launch and recovery. In its simplest form, the strut is a piston with orifices that moves through a cylinder containing oil and nitrogen. Maintenance consists of keeping up the high-pressure nitrogen charge and periodically replenishing or changing hydraulic fluid. To service a shock strut, you release the nitrogen pressure by means of a valve on top of the strut, remove the valve, pour or pump fresh fluid into the strut, replace the valve, and re-service with nitrogen. Unfortunately, this process isn't nearly as simple, neat or convenient as it sounds. Airframers find it time-consuming and messy. Enter Hydro Mite strut servicing.

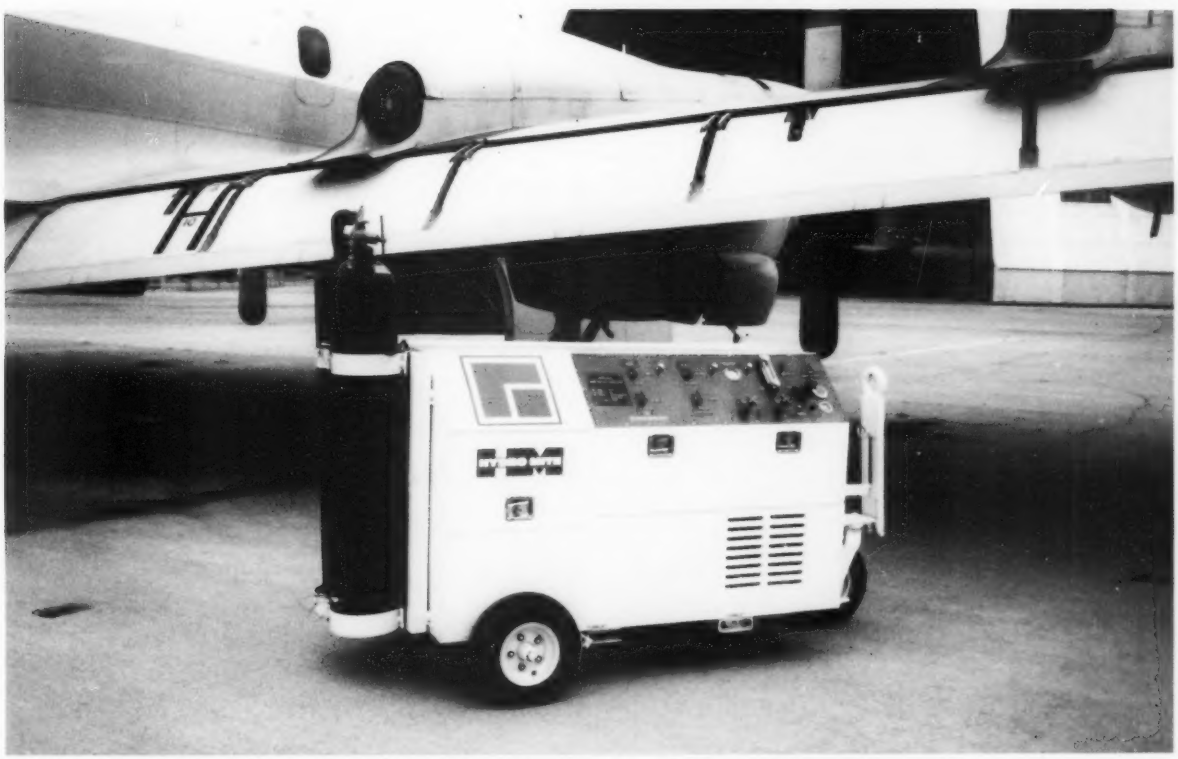
With Hydro Mite's support equipment, currently being evaluated by several Navy commands, you can service a strut in as little as six minutes. In a test on a C-130 done by the Air Force, the time to fully service struts was reduced from 64 man-hours to 2.5 man-hours per aircraft.

Complete strut servicing (fluid and nitrogen) is done through two retractable hoses. There is no release of hazardous, toxic fluid into the environment, which means no mess. No jacking; the struts get serviced with the aircraft's weight on the wheels. That minimizes injury to people and damage to aircraft.

Operators need only to familiarize themselves with the equipment and spend roughly an hour of on-aircraft training. The Hydro Mite has cleaned up a messy and time-consuming job.

Senior Chief Winnett is a maintenance analyst for the Naval Safety Center.

Lockheed Service News, Vol. 21, No. 4, Oct.-Dec. '94 offers more information about the Hydro Mite. See "Landing Gear Strut Servicing Made Easy with the Hydro Mite Stand," by Dolcena Sanderson, Product Support Engineer Reliability and Maintainability Engineering Department.

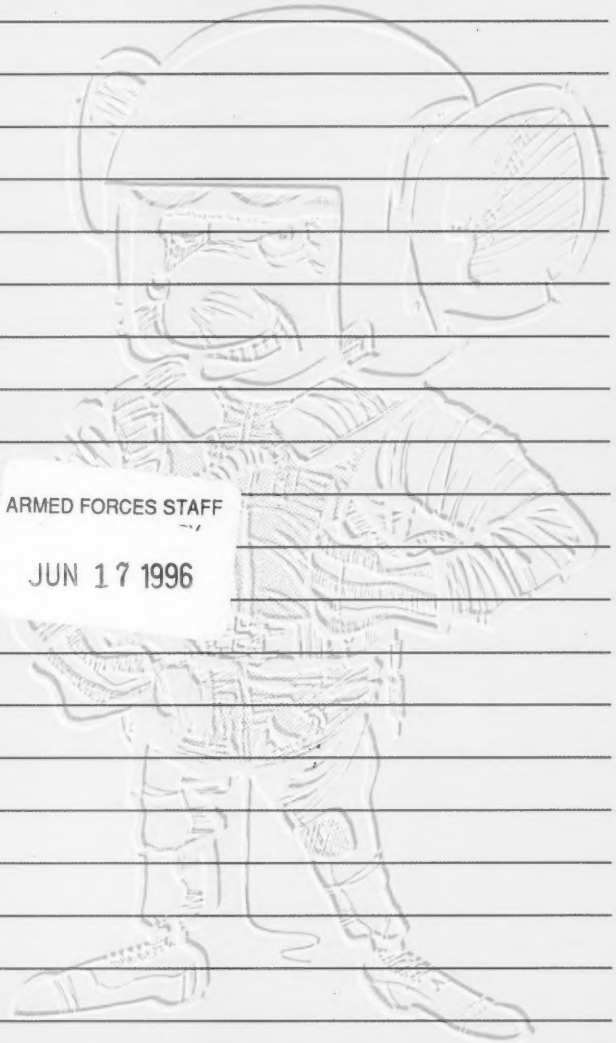


The Rentfrow, Inc. Hydro Mite strut-servicing equipment does the job much faster and cleaner than the old pump-or-pour methods.

Submit an Anymouse, prevent a mishap.

ANYMOUSE

Tell what happened, where it happened and why it happened.
How can this problem be prevented or corrected?



ARMED FORCES STAFF
JUN 17 1996

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As of June our new area code is (757).